

PALOS VERDES LANDFILL
REMEDIAL INVESTIGATION REPORT

APPENDIX A.3.6.1

ANALYTICAL DATA;
GROUND WATER SAMPLES FOR RADIOACTIVITY

TMA
Thermo Analytical Inc.

TMA/Norcal

2030 Wright Avenue

P.O. Box 4040

Richmond, CA 94804-0040

(415) 235-2633 Fax No. (415) 235-0438

February 27, 1991

FINAL REPORT, SENT BY FAX

Ref: P.O. No. 23345

TMA/Norcal N1-01-016

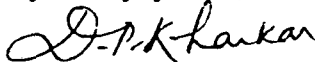
Mr. Kent Seitz
SJC Water Quality Laboratory
County Sanitation Dist. of L.A.
1965 South Workman Mill Road
Whittier, CA 90601

Dear Mr. Seitz:

The final results of the water samples we received for analysis on 2 January 1991 have been completed and are shown on Attachment 1. The QA/QC results are shown on Attachment 2. A partial report was sent to you on 26 February 1991.

Thank you for allowing us to be of service.

Very truly yours,



Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs
TMA/Norcal

DPK/ss

Enclosure: Attachment 1

cc: Steve Carr

ATTACHMENT 1 RESULTS

Customer ID No.	TMA/Norcal Group No. 9442	Analysis	Results pCi/L \pm 2 σ
06636	1	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	19 \pm 24 (1) 8 \pm 13 600 \pm 250 0 \pm 1 1.5 \pm 0.9 44 \pm 4
06637	2	⁹⁰ Sr Total Radium	0 \pm 2 2.0 \pm 0.9
06638	3	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	128 \pm 70 (1) 61 \pm 29 0 \pm 500 0 \pm 1 0 \pm 0.1 72 \pm 8
06639	4	Gross Alpha Gross Beta	128 \pm 78 (1) 90 \pm 50
06791	5	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	4 \pm 6 44 \pm 5 0 \pm 300 0 \pm 1 2.0 \pm 0.4 0 \pm 4
06792	6	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	12 \pm 8 49 \pm 6 0 \pm 300 0 \pm 1 2.0 \pm 0.3 4 \pm 4
06793	7	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	2 \pm 7 16 \pm 4 0 \pm 350 0 \pm 1 1.8 \pm 0.6 0 \pm 4
06794	8	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	0 \pm 1 0 \pm 2 0 \pm 300 0 \pm 1 0 \pm 0.1 1 \pm 4

PCV
3/19/91
TMA/Norcal

ATTACHMENT 1 RESULTS (cont'd, page two)

Customer ID No.	TMA/Norcal Group No.	Analysis	Results pCi/L \pm 2 σ
06908 ✓ PH-10	9	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	192 \pm 62 (1) 123 \pm 30 0 \pm 300 0 \pm 1 0.9 \pm 0.2 185 \pm 18
06909 ✓ EW-7	10	Gross Alpha Gross Beta ³ H ⁹⁰ Sr Total Radium Total Uranium	17 \pm 30 (1) 11 \pm 14 (1.32 \pm 0.22) \times 10 ⁴ (2) 0 \pm 2 1.5 \pm 0.2 39 \pm 5
06915 ✓ JDA	11	Gross Alpha Gross Beta	5 \pm 7 15 \pm 4

- (1) Small aliquot taken due to large dissolved salts in the sample.
- (2) Low counting efficiency obtained for this sample.

TMA

Thermo Analytical Inc.

TMA/Norcal

2030 Wright Avenue

P.O. Box 4040

Richmond, CA 94804-0040

(415) 235-2633 Fax No. (415) 235-0438

March 6, 1991

SENT BY FAX

Ref: P.O. No. 23345
TMA/Norcal N1-02-160

Mr. Kent Seitz
SJC Water Quality Laboratory
County Sanitation Dist. of L.A.
1965 South Workman Mill Road
Whittier, CA 90601

Dear Mr. Seitz:

The results of the six water samples we received for analysis on 19 February 1991 have been completed and are shown on Attachment 1. The QA/QC results are shown on Attachment 2.

Thank you for allowing us to be of service.

Very truly yours,

D.P. Kharkar

Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs
TMA/Norcal

DPK/ss

Enclosures: Attachment 1 and 2

ATTACHMENT 1 RESULTS

Customer ID No.	TMA/Norcal Group No. 9449	Analysis	Results pCi/L \pm 2 σ
11910	1	Gross Alpha Gross Beta	39 \pm 14 (1) 19 \pm 7
11911	2	Gross Alpha Gross Beta	10 \pm 15 (1) 15 \pm 7
11912	3	Gross Alpha Gross Beta	12 \pm 17 (1) 13 \pm 7
11998	4	Gross Alpha Gross Beta	38 \pm 20 (1) 7 \pm 7
11999	5	Gross Alpha Gross Beta	43 \pm 21 (1) 14 \pm 7
12000	6	Gross Alpha Gross Beta	15 \pm 14 (1) 11 \pm 7

(1) Small aliquot was deposited on the planchet due to high salt content.

ATTACHMENT 2 QA/QC RESULTS

SPIKES

TMA/Norcal Group No.	Analysis	Added	Found	<u>Found</u> Added Ratio $\pm 2 \sigma$
9449-7	Gross Alpha	18.06 pCi	13.9 pCi	0.77 \pm 0.11
QC-4343	Gross Beta	16.67 pCi	14.8 pCi	0.89 \pm 0.04

TMA

Thermo Analytical Inc.

TMA/Norcal

2030 Wright Avenue

P.O. Box 4040

Richmond, CA 94804-0040

(415) 235-2633 Fax No. (415) 235-0438

February 27, 1991

FINAL REPORT, SENT BY FAX

Ref: P.O. No. 23345
TMA/Norcal NO-12-195

Mr. Kent Seitz
SJC Water Quality Laboratory
County Sanitation Dist. of L.A.
1965 South Workman Mill Road
Whittier, CA 90601

Dear Mr. Seitz:

The final results of the water samples we received for analysis on 17 December 1991 have been completed and are shown on Attachment 1. A partial report was sent to you on 26 February 1991. The QA/QC results are shown on Attachment 2.

Thank you for allowing us to be of service.

Very truly yours,



Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs
TMA/Norcal

DFK/ss

Enclosure: Attachment 1

cc: Steve Carr with Attachment

ATTACHMENT 1 RESULTS

Customer ID No.	TMA/Norcal Group No. 9443	Analysis	Results pCi/L \pm 2 σ
07337	1	Gross Alpha Gross Beta ^3H ^{90}Sr Total Radium Total Uranium	191 \pm 87 (1) 58 \pm 29 0 \pm 400 1.2 \pm 0.7 0.2 \pm 0.1 150 \pm 15
07216	2	Gross Alpha Gross Beta ^3H ^{90}Sr Total Radium Total Uranium	3 \pm 21 (1) 248 \pm 32 (6.9 \pm 0.5) \times 10 ³ 0 \pm 1 6.4 \pm 0.6 5 \pm 4
07217	3	Gross Alpha Gross Beta ^3H ^{90}Sr Total Radium Total Uranium	1 \pm 1 6 \pm 4 0 \pm 300 0 \pm 1 0 \pm 0.1 5 \pm 4
07218	4	Gross Alpha Gross Beta ^3H ^{90}Sr Total Radium Total Uranium	2 \pm 3 3 \pm 3 0 \pm 300 2.2 \pm 0.1 0.8 \pm 0.1 6 \pm 4
07219	5	Gross Alpha Gross Beta ^3H ^{90}Sr Total Radium Total Uranium	11 \pm 14 (1) 21 \pm 10 0 \pm 300 0 \pm 1 2.0 \pm 0.3 21 \pm 4

(1) Small aliquot taken due to large dissolved salts in the sample.

ATTACHMENT 2 QA/QC RESULTS

SPIKES

TMA/Norcal Group No.	Analysis	Added	Found	<u>Found</u> Added	Ratio $\pm 2 \sigma$
D1-C-(3)	Total Uranium	407 ng	397 ng	0.98 \pm 0.10	
QC 4161	Total Uranium	22.90 pCi	22.21 pCi	1.03 \pm 0.19	

MONTGOMERY LABORATORIES
a division of James M. Montgomery, Consulting Engineers, Inc.
555 East Walnut Street, Pasadena, California 91101
(818) 796-9141 / (213) 681-4255 Telex 67-5420

Report of Inorganic Analyses

*LA CO Sanitation Districts/Palos Verdes	Job#: 437.1173
Montgomery Laboratories	PO#: 034312
Attn: Miriam Sykes	Workorder#: W35150
	Report#: R69179
	Phone #: 6489

Date Sampled: 5/7/91	Date Received: 5/8/91
Date Completed: 6/14/91	

Lab#	Sample I.D.	3H* pCi/L	U* mg/l	Ra226* pCi/L	2Sigma pCi/L
L52149	15511	2352+/-626	0.043	<0.6	NA
L52150	15541	5284+/-674	0.002	<0.6	NA
L52151	15543	<500	0.089	<0.6	NA
L52152	15544	<500	0.055	<0.6	NA

Lab#	Sample I.D.	Ra228* pCi/L	2Sigma pCi/L	Alpha pCi/L	2Sigma pCi/L
L52149	15511	<1	NA	4.1	2.1
L52150	15541	<1	NA	2.7	2.0
L52151	15543	<1	NA	56	13
L52152	15544	<1	NA	40	9.8

Lab#	Sample I.D.	Beta pCi/L	2Sigma pCi/L	90Sr* pCi/L
L52149	15511	21	2.9	<0.5
L52150	15541	18	2.8	<0.5
L52151	15543	38	8.4	<0.5
L52152	15544	52	8.6	<0.5

*NOTE: Results provided by CEP Analytical.

NA: Not Analyzed

Approved by RE Wilson

APPROVED

JUN. 17 1991



RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 931104001
 Date Collected: 01-NOV-93
 Matrix: Water

LAL Sample ID: L671-1
 Date Received: 05-NOV-93
 Login Number: L671

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	29-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.00	0.00	0.027		pCi/L
Pu-239/40	23-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.045	0.029	0.035		pCi/L
Ra-226	30-NOV-93	RA-226 LAL-0073_2369	3.75	0.50	0.13		pCi/L
Ra-228	06-DEC-93	RA-228 LAL-0074_3033	2.35	0.59	0.85		pCi/L
Sr-90	27-NOV-93	SR-90 LAL-0065_2365	-0.09	0.32	0.55		pCi/L
Th-228	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.00	0.35	0.47		pCi/L
Th-230	08-DEC-93	TH-ISOTOPIC LAL-0108_2904	1.79	0.65	0.16		pCi/L
Th-232	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.05	0.17	0.27		pCi/L
U-233/4	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.22	0.21	0.19		pCi/L
U-235	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.13	0.15	0.12		pCi/L
U-238	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.08	0.12	0.15		pCi/L

Sample description
Montgomery water 931104001 1L marinelli AD8017
LAL parent L671-1 Batch 063_2308

***** SUMMARY OF NUCLIDES IN SAMPLE *****

NUCLIDE	TIME OF COUNT	TIME CORRECTED	UNCERTAINTY	2 SIGMA
	ACTIVITY	ACTIVITY	COUNTING	TOTAL
	pCi/L	pCi/L	pCi/L	pCi/L
TH-234 <	1.11E+02	1.11E+02		
RA-226 <	8.01E+01	8.01E+01		
PB-214	9.4880E+00	9.4881E+00	7.02	7.05
BI-214	1.8134E+01	1.8135E+01	6.43	6.54
PB-210 #	7.2153E+01	7.2210E+01	56.84	57.16
U-235 <	5.17E+00	5.17E+00		
AC-228 <	1.86E+01	1.86E+01		
PB-212 <	8.50E+00	8.50E+00		
BI-212 <	5.07E+01	5.07E+01		
TL-208 <	4.82E+00	4.82E+00		
K-40	2.7254E+02	2.7254E+02	44.70	47.63
CO-60 <	3.22E+00	3.23E+00		
CS-134 <	6.20E+00	6.26E+00		
CS-137 <	3.72E+00	3.72E+00		
V-48 <	3.48E+00	5.22E+00		

All peaks for activity calculation had bad shape.

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931104001
Date Collected: 01-NOV-93
Matrix: Water

LAL Sample ID: L671-4
Date Received: 05-NOV-93
Login Number: L671

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	17-NOV-93	TRITIUM(H3) LAL-0066_2366	420	200	280		pCi/L

Reagent Blank Analysis

MONTGOMERY L671

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Sr-90	065_2365	0.76	1.0	11-27-93	-0.20	
H-3	066_2366	280	400	11-18-93	128	
Ra-226	073_2369	0.23	0.2	11-29-93	0.11	
Ra-228	074_3033	0.81	1.0	12-06-93	0.59	
Th-228	108_2904	0.33	1.0	12-06-93	0.01	
Th-230	108_2904	0.20	1.0	12-06-93	1.20	*
Th-232	108_2904	0.26	1.0	12-06-93	0.12	
U-234	108_2802	0.04	0.6	12-01-93	0.03	
U-235	108_2802	0.03	0.6	12-01-93	0.00	
U-238	108_2802	0.04	0.6	12-01-93	0.03	
Pu-239	108_2368	0.01	0.1	11-23-93	0.05	
Gamma Spec	063_2308	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L671

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Sr-90	065 2365	931104001	L671-1	11-27-93	-0.09	0.32	0.28	0.37	0.54	389	
H-3	066 2366	931104001	L671-4	11-18-93	416	202	292	186	0.32	34.8	
Ra-226	073 2369	931104001	L671-1	11-29-93	3.75	0.50	4.41	0.56	0.63	16.2	
Ra-228	074 3033	931104001	L671-1	12-06-93	2.35	0.589	6.43	0.953	2.65	92.9	*
Th-228	108 2904	931105039	L709-12	12-06-93	-0.02	0.24	0.02	0.26	0.08	2000	
Th-230	108 2904	931105039	L709-12	12-06-93	1.20	0.52	1.18	0.46	0.01	1.09	
Th-232	108 2904	931105039	L709-12	12-06-93	0.21	0.22	0.25	0.21	0.09	16.8	
U-234	108 2802	W-829-06	L741-11	12-01-93	38.4	4.90	36.3	4.28	0.23	5.55	
U-235	108 2802	W-829-06	L741-11	12-01-93	1.53	0.64	1.83	0.64	0.23	17.6	
U-238	108 2802	W-829-06	L741-11	12-01-93	32.9	4.33	32.6	3.93	0.04	0.93	
Pu-239	108 2368	931104001	L671-1	11-23-93	0.05	0.03	0.021	0.02	0.45	72.7	
Gamma Spec											
K-40	063 2308	931104001	L671-1	11-15-93	273	44.7	273	58.2	0.00	0.00	

Laboratory Control Sample Analysis

MONTGOMERY L671

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Sr-90	065 2365	11-27-93	28.5	0.89	26.5	108	
H-3	066 2366	11-18-93	4023	451	4297	94	
Ra-226	073 2369	11-29-93	5.44	0.68	5.90	92	
Ra-228	074 3033	12-06-93	12.70	1.13	11.50	110	
Th-232	108 2904	12-06-93	27.7	3.00	27.1	102	
U-234	108 2802	12-01-93	6.58	0.83	5.70	116	
U-238	108 2802	12-01-93	6.82	0.85	5.68	120	
Pu-239	108 2368	11-23-93	2.60	0.19	2.32	112	
Gamma Spec							
Co-60	063 2308	11-15-93	227	18.0	218	104	
Cs-137	063 2308	11-15-93	203	17.0	195	104	



-

Quality
Environmental
Systems

Telephone
918 796 9141

115 East Walnut Street
P.O. Box 7009
Presadena, California
91709 7009

Montgomery Laboratories

Subcontract Lab: LOCKHEED ANALYTICAL SERVICES
Address: 775 KELLY JOHNSON DRIVE
LAS VEGAS, NV 89119-3705

Date: 11-10-93

Phone/Fax #: 582-7605

Attention: _____

PO#: LAB-17961

Please provide results by mail/fax telephone to DEVERLY GAS-MS

Montgomery Laboratories would like the following 7 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
931165043	65417	11-4-93		NORMAL TAT	STRONTIUM 90, TRITIUM, URANIUM	
931105044	65418	"		"	"	
931104118	65362	11-3-93		"	"	
931104119	65363	"		"	"	
931165038 ✓	65434	11-4-93		"	SR90 TRITIUM URANIUM STD PIC PLUTO NIUM & THORNIUM SPEC K-48 & U-48	RA226 & RA223 THORNIUM, GAMMA
931165039 ✓	65435	11-4-93		"	"	
931164120 ✓	65357	11-3-93		"	"	

Special comments: _____

Requisitioned by: [Signature]

Date: 11-10-93

Received by: [Signature]

Date: 11-11-93 09:00

C. J. F. V. 212 2577 861

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931105038

LAL Sample ID: L709-5

Date Collected: 04-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Database	Units
Sr-90	27-NOV-93	SR-90 LAL-0065_2365	0.13 <i>WDV</i>	0.27	0.45		pCi/L
U-233/4	01-DEC-93	U-ISOTOPIC LAL-0108_2802	2.84	0.73	0.19		pCi/L
U-235	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.27	0.23	0.18		pCi/L
U-238	01-DEC-93	U-ISOTOPIC LAL-0108_2802	3.17	0.77	0.21		pCi/L

6.28 ✓

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931105039

LAL Sample ID: L709-6

Date Collected: 04-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Data Qual	Units
Sr-90	27-NOV-93	SR-90 LAL-0065_2365	-0.06	0.29	0.49		pCi/L
U-233/4	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.06	0.11	0.16		pCi/L
U-235	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.020	0.081	0.16		pCi/L
U-238	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.24	0.19	0.11		pCi/L

.320 MD ✓

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931104120

LAL Sample ID: L709-7

Date Collected: 03-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Data Qual	Units
Sr-90	27-NOV-93	SR-90 LAL-0065_2365	-0.09 <i>ND</i>	0.30	0.52		pCi/L
U-233/4	01-DEC-93	U-ISOTOPIC LAL-0108_2802	9.3	1.5	0.18		pCi/L
U-235	01-DEC-93	U-ISOTOPIC LAL-0108_2802	0.39	0.27	0.17		pCi/L
U-238	01-DEC-93	U-ISOTOPIC LAL-0108_2802	8.1	1.4	0.18		pCi/L

17.79 ✓
17.8 ✓

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RALIOCHEMISTRY)

Client Sample ID: 931105038

LAL Sample ID: L709-8

Date Collected: 04-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	30-NOV-93	RA-226 LAL-0073_2369	0.25 ND	0.12 ND	0.42		pCi/L
Ra-228	06-DEC-93	RA-228 LAL-0074_3033	0.70 ND	0.76 ND	1.3		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931105039

LAL Sample ID: L709-9

Date Collected: 04-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Log In Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Data	Units	
Ra-226	30-NOV-93	RA-226 LAL-0073_2369	0.00	ND	0.085	ND	0.19	pCi/L
Ra-228	06-DEC-93	RA-228 LAL-0074_3033	1.56	✓	0.64	ND	1.0	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931104120

LAL Sample ID: L709-10

Date Collected: 03-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Data Qual	Units
Ra-226	30-NOV-93	RA-226 LAL-0073_2369	2.58 ✓	0.41 ✓	0.16		pCi/L
Ra-228	06-DEC-93	RA-228 LAL-0074_3033	0.37 ND	0.44 ND	0.73		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931105038

LAL Sample ID: L709-11

Date Collected: 04-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
PU-238	23-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.007	0.014	0.027		pCi/L
PU-239/40	23-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.087	0.036	0.027		pCi/L
TH-228	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.24	0.34	0.37		pCi/L
TH-230	08-DEC-93	TH-ISOTOPIC LAL-0108_2904	1.19	0.50	0.19		pCi/L
TH-232	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.24	0.25	0.24		pCi/L

Sample description

Montgomery Labs water 931105038 1L marinelli AD7913
LAL parent L709-11 batch 063_2433

```

***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE      ACTIVITY      ACTIVITY      COUNTING      TOTAL
              pCi/L        pCi/L        pCi/L        pCi/L
+-----+-----+-----+-----+-----+-----+
TH-234 <      9.55E+01      9.55E+01
RA-226 <      7.99E+01      7.99E+01
PB-214      4.6756E+01      4.6757E+01      6.49      7.32
BI-214      4.7208E+01      4.7209E+01      7.40      8.00
PB-210 #      8.8575E+01      8.8653E+01      64.08      64.49
U-235 <      5.06E+00      5.06E+00
AC-228 <      1.90E+01      1.90E+01
PB-212      6.1263E+00      6.1263E+00      5.40      5.41
BI-212 <      5.22E+01      5.22E+01
TL-208 <      4.64E+00      4.64E+00
K-40 <      5.06E+01      5.06E+01
CO-60 #      3.6851E+00      3.6989E+00      3.16      3.17
CS-134 <      7.26E+00      7.33E+00
CS-137 <      3.39E+00      3.39E+00
V-48 <      4.37E+00      6.82E+00

```

All peaks for activity calculation had bad shape.

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931105039
Date Collected: 04-NOV-93
Matrix: Water

LAL Sample ID: L709-12
Date Received: 11-NOV-93
Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	29-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.00	0.00	0.028		pCi/L
Pu-239/40	23-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.053	0.030	0.028		pCi/L
Th-228	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	-0.02	0.24	0.37		pCi/L
Th-230	08-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.53	0.35	0.21		pCi/L
Th-232	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.21	0.22	0.19		pCi/L

Sample description

Montgomery Labs water 931105039 1.5L in marinelli AD7914
LAL parent L709-12 batch 063_2433

```

***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY   ACTIVITY   COUNTING   TOTAL
          pCi/L     pCi/L     pCi/L     pCi/L
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
TH-234 <    9.51E+01    9.51E+01
RA-226 <    3.12E+01    3.12E+01
PB-214 <    4.41E+00    4.41E+00
BI-214 <    4.74E+00    4.74E+00
PB-210 <    2.46E+02    2.46E+02
U-235 <    2.60E+00    2.60E+00
AC-228 <    7.92E+00    7.92E+00
PB-212 <    2.7845E+00    2.7845E+00    2.43    2.43
BI-212 <    2.21E+01    2.21E+01
TL-208 <    2.5524E+00    2.5524E+00    2.26    2.27
K-40 <    2.58E+01    2.58E+01
CO-60 <    1.02E+00    1.02E+00
CS-134 <    2.48E+00    2.50E+00
CS-137 <    1.23E+00    1.23E+00
V-48 <    1.21E+00    1.94E+00

```


RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931104120

LAL Sample ID: L709-13

Date Collected: 03-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Database	Units
Pu-238	29-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.00	0.00	0.010		pCi/L
Pu-239/40	23-NOV-93	PU-ISOTOPIC LAL-0108_2368	0.143	0.046	0.010		pCi/L
Th-228	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.06	0.22	0.29		pCi/L
Th-230	08-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.53	0.31	0.18		pCi/L
Th-232	06-DEC-93	TH-ISOTOPIC LAL-0108_2904	0.043	0.085	0.12		pCi/L

Sample description

Montgomery Labs water 931104120 1.5L in marinelli AD7915
LAL parent L709-13 batch 063_2433

```

***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY   ACTIVITY   COUNTING   TOTAL
          pCi/L       pCi/L       pCi/L       pCi/L
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
TH-234 <      9.57E+01      9.57E+01
RA-226 <      3.98E+01      3.98E+01
PB-214      2.0973E+01      2.0973E+01      3.73      3.85
BI-214      1.8156E+01      1.8156E+01      2.91      2.97
PB-210 <      2.43E+02      2.44E+02
U-235 <      1.76E+00      1.76E+00
AC-228 <      7.48E+00      7.48E+00
PB-212 <      4.76E+00      4.76E+00
BI-212 <      2.20E+01      2.20E+01
TL-208 <      4.33E+00      4.33E+00
K-40 <      2.57E+01      2.57E+01
CO-60 <      8.57E-01      8.61E-01
CS-134 <      2.98E+00      3.00E+00
CS-137 <      1.89E+00      1.89E+00
V-48 <      8.90E-01      1.39E+00

```

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931105038
Date Collected: 04-NOV-93
Matrix: Water

LAL Sample ID: L709-23
Date Received: 11-NOV-93
Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Detected	Units
H-3	17-NOV-93	TRITIUM(H3) LAL-0066_2366	-10	150	280		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931105039

LAL Sample ID: L709-27

Date Collected: 04-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Standard	Units
H-3	17-NOV-93	TRITIUM(H3) LAL-0066_2366	-60 <i>ND</i>	140	280		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931104120

LAL Sample ID: L709-28

Date Collected: 03-NOV-93

Date Received: 11-NOV-93

Matrix: Water

Login Number: L709

Constituent	Analyzed	Batch	Activity	Error	MDA	Database	Units
H-3	17-NOV-93	TRITIUM(H3) LAL-0066_2366	70	160	280		pCi/L

Reagent Blank Analysis

MONTGOMERY L709

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Sr-90	065_2365	0.76	1.0	11-27-93	-0.20	
H-3	066_2366	280	400	11-18-93	128	
Ra-226	073_2369	0.23	0.2	11-29-93	0.11	
Ra-228	074_3033	0.81	1.0	12-06-93	0.59	
Th-228	108_2904	0.33	1.0	12-06-93	0.01	
Th-230	108_2904	0.20	1.0	12-06-93	1.20	*
Th-232	108_2904	0.26	1.0	12-06-93	0.12	
U-234	108_2802	0.04	0.6	12-01-93	0.03	
U-235	108_2802	0.03	0.6	12-01-93	0.00	
U-238	108_2802	0.04	0.6	12-01-93	0.03	
Pu-239	108_2368	0.01	0.1	11-23-93	0.05	
Gamma Spec	063_2433	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L709

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Sr-90	065_2365	931104001	L671-1	11-27-93	-0.09	0.32	0.28	0.37	0.54	389	
H-3	066_2366	931104001	L671-4	11-18-93	416	202	292	186	0.32	34.8	
Ra-226	073_2369	931104001	L671-1	11-29-93	3.75	0.50	4.41	0.56	0.63	16.2	
Ra-228	074_3033	931104001	L671-1	12-06-93	2.35	0.589	6.43	0.953	2.65	92.9	*
Th-228	108_2904	931105039	L709-12	12-06-93	-0.02	0.24	0.02	0.26	0.08	2000	
Th-230	108_2904	931105039	L709-12	12-06-93	1.20	0.52	1.18	0.46	0.01	1.09	
Th-232	108_2904	931105039	L709-12	12-06-93	0.21	0.22	0.25	0.21	0.09	16.8	
U-234	108_2802	W-829-06	L741-11	12-01-93	38.4	4.90	36.3	4.28	0.23	5.55	
U-235	108_2802	W-829-06	L741-11	12-01-93	1.53	0.64	1.83	0.64	0.23	17.6	
U-238	108_2802	W-829-06	L741-11	12-01-93	32.9	4.33	32.6	3.93	0.04	0.93	
Pu-239	108_2368	931104001	L671-1	11-23-93	0.05	0.03	0.021	0.02	0.45	72.7	
Gamma Spec											
K-40	063_2433	931105038	L709-11	11-30-93	50.6	50.6	48.9	45.36	0.02	3.42	
Vn-48	063_2433	931105038	L709-11	11-30-93	6.82	4.37	4.57	2.7	0.32	39.51	

Laboratory Control Sample Analysis

MONTGOMERY L709

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Sr-90	065_2365	11-27-93	28.5	0.89	26.5	108	
H-3	066_2366	11-18-93	4023	451	4297	94	
Ra-226	073_2369	11-29-93	5.44	0.68	5.90	92	
Ra-228	074_3033	12-06-93	12.70	1.13	11.50	110	
Th-232	108_2904	12-06-93	27.7	3.00	27.1	102	
U-234	108_2802	12-01-93	6.58	0.83	5.70	116	
U-238	108_2802	12-01-93	6.82	0.85	5.68	120	
Pu-239	108_2368	11-23-93	2.60	0.19	2.32	112	
Gamma Spec							
Co-60	063_2433	11-30-93	211	17.8	218	97	
Cs-137	063_2433	11-30-93	213	17.1	195	109	

12/06/93

11:53

LOCKHEED HINCHLIFF SERVICES - 5433300004



225 East Walnut Street
P.O. Box 7009
Pasadena, California
91109 7009

Montgomery Laboratories

Subcontract Lab: LOCKHEED ANALYTICAL SERVICES
Address: 975 KELLY JOHNSON DRIVE
LAS VEGAS, NV 89119 -3705

Date: 12-03-93

Phone Number: (800) 582-7605

Attention: _____

PO#: LAB-18062

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 4 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
931105043	65417	11-4-93		NORMAL TAT	RA 226 & RA 228	
931105034	JW 03761	11-2-93		"	"	
93111018	65603	11-10-93		"	"	
931202108	66612	12-01-93		"	SR90, H3, U, RA226, RA228 POTASSIUM-40 & VANADIUM-51 BY GAMMA SPEC., ISOTOPIC PLUTONIUM, ISOTOPIC THORIUM	

Special comments: _____

Relinquished by: [Signature]

Date: 12-03-93

Received by: [Signature]

Date: 12-4-93 10:00

RAD DATA REPORT (r=01)

Montgomery Laboratories * Pasadena, CA

(Project RADICHEMISTRY)

Client Sample ID: 931202108

LAL Sample ID: L861-4

Date Collected: 01-DEC-93

Date Received: 04-DEC-93

Matrix: Water

Login Number: L861

Constituent	Analyzed	Batch	Activity	Error	MDA	Database	Units
Ra-226	03-JAN-94	RA-226 LAL-0073_3124	0.66	✓	0.23	✓	0.18
Ra-228	28-DEC-93	RA-228 LAL-0074_3123	0.72	ND	0.53	ND	0.17

pCi/L
pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 251202103

LAL Sample ID: LB61-5

Date Collected: 01-DEC-93

Date Received: 04-DEC-93

Matrix: Water

Login Number: LB61

Constituent	Analyzed	Batch	Activity	Error	MDA	Detected	Units
Sr-90	21-DEC-93	SR-90 LAL-0065_2932	ND	0.44	0.76		pCi/L
U-233/4	14-DEC-93	U-ISOTOPIIC LAL-0108_2933	0.66	0.38	0.21		pCi/L
U-235	14-DEC-93	U-ISOTOPIIC LAL-0108_2933	0.044	0.1	0.18		pCi/L
U-238	14-DEC-93	U-ISOTOPIIC LAL-0108_2933	0.21	0.21	0.14		pCi/L

191ND

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931202108

LAL Sample ID: L861-6

Date Collected: 01-DEC-93

Date Received: 04-DEC-93

Matrix: Water

Login Number: L861

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
PU-238	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.059	0.076	0.13		pCi/L
- Pu-239/40	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.24	0.11	0.12		pCi/L
Th-228	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	-0.1	1	1.5		pCi/L
Th-230	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	5.2	2.2	1		pCi/L
Th-232	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	0.8	1	1.2		pCi/L

Sample description

Montgomery Labs water 930202108 1L marinelli AD9516
LAL parent L861-6 batch 063_3050

```

***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY   ACTIVITY   COUNTING   TOTAL
          pCi/L     pCi/L     pCi/L     pCi/L
-----+-----+-----+-----+-----+-----+-----+-----+-----+
TH-234 <    1.24E+02    1.24E+02
RA-226 <    1.14E+02    1.14E+02
PB-214    1.6317E+01    1.6317E+01    10.71    10.78
BI-214    1.8946E+01    1.8947E+01    7.98     8.07
PB-210 <    1.27E+02    1.27E+02
U-235 <    6.67E+00    6.67E+00
AC-228 <    2.34E+01    2.34E+01
PB-212    8.3698E+00    8.3698E+00    6.82     6.84
BI-212 <    7.21E+01    7.21E+01
TL-208 <    6.25E+00    6.25E+00
K-40 <    9.26E+01    9.26E+01
CO-60 <    2.46E+00    2.47E+00
CS-134 <    8.31E+00    8.37E+00
CS-137 <    4.95E+00    4.95E+00
V-48 <    3.05E+00    4.32E+00

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RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931202108

LAL Sample ID: L861-7

Date Collected: 01-DEC-93

Date Received: 04-DEC-93

Matrix: Water

Login Number: L861

Constituent	Analyzed	Batch	Activity	Error	MOA	Database	Units
H-3	27-DEC-93	TRITIUM(H3) LAL-0066_3164	270 ^N	150	220		pCi/L

Reagent Blank Analysis

MONTGOMERY L861

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Ra-226	073_3124	0.26	2.0	01-03-94	0.04	
Ra-228	074_3123	0.84	4.0	12-28-93	0.24	
Ra-228	074_3751	0.66	4.0	01-07-94	-0.09	
Sr-90	065_2932	0.78	1.0	12-21-93	0.02	
H-3	066_3164	215	400	12-27-93	130	
U-234	108_2933	0.04	0.6	12-14-93	0.05	
U-235	108_2933	0.04	0.6	12-14-93	0.04	
U-238	108_2933	0.04	0.6	12-14-93	0.04	
Pu-239	108_3125	0.08	0.1	12-15-93	0.09	
Th-228	108_3417	0.08	1.0	12-21-93	0.04	
Th-230	108_3417	0.03	1.0	12-21-93	0.37	
Th-232	108_3417	0.05	1.0	12-21-93	0.06	
Th-228	108_3126	0.30	1.0	12-14-93	0.56	
Th-230	108_3126	0.19	1.0	12-14-93	0.51	
Th-232	108_3126	0.26	1.0	12-14-93	0.07	
Gamma Spec	063_3050	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L861

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073_3124	931105043	L861-1	01-03-94	0.08	0.12	0.08	0.11	0.00	1	
Ra-228	074_3123	931105043	L861-1	12-28-93	0.02	0.50	0.46	0.50	0.45	187	
Ra-228	074_3751	931210064	L1007-6	01-07-94	0.23	0.46	0.64	0.49	0.43	94	
Sr-90	065_2932	931206141	L889-3	12-21-93	-0.46	0.54	0.12	0.52	0.55	-341	
H-3	066_3164	931206139	L889-10	12-27-93	157	132	199	143	0.15	24	
U-234	108_2933	931124009	L813-2	12-14-93	1.57	0.53	1.25	0.48	0.32	23	
U-235	108_2933	931124009	L813-2	12-14-93	0.26	0.21	0.21	0.20	0.12	21	
U-238	108_2933	931124009	L813-2	12-14-93	1.08	0.44	0.81	0.39	0.33	29	
Pu-239	108_3125	931206140	L889-8	12-15-93	0.18	0.09	0.24	0.09	0.32	27	
Th-228	108_3417	931206141	L889-9	12-21-93	0.84	1.08	1.36	1.45	0.20	47	
Th-230	108_3417	931206141	L889-9	12-21-93	6.59	2.15	1.92	1.16	1.41	110	*
Th-232	108_3417	931206141	L889-9	12-21-93	0.95	0.81	0.12	0.36	0.71	156	
Th-228	108_3126	931206139	L889-7	12-14-93	0.48	0.39	0.25	0.31	0.34	64	
Th-230	108_3126	931206139	L889-7	12-14-93	1.36	0.52	1.11	0.45	0.25	20	
Th-232	108_3126	931206139	L889-7	12-14-93	0.53	0.32	0.34	0.25	0.33	44	
Gamma Spec											
Bi-214	063_3050	WELL PM-2	L864-1	12-09-93	15.0	9.87	16.5	9.22	0.08	10	

Laboratory Control Sample Analysis

MONTGOMERY L861

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073_3124	01-03-94	11.6	0.89	11.5	102	
Ra-228	074_3123	12-28-93	24.7	1.04	22.9	108	
Ra-228	074_3751	01-07-94	47.8	1.34	45.7	105	
Sr-90	065_2932	12-21-93	27.9	1.04	26.5	105	
H-3	066_3164	12-27-93	4515	387	4271	106	
U-238	108_2933	12-14-93	5.72	0.73	5.68	101	
Pu-239	108_3125	12-15-93	12.0	0.80	11.6	104	
Th-232	108_3417	12-21-93	5.61	0.65	5.43	103	
Th-232	108_3126	12-14-93	29.0	3.24	27.1	107	
Gamma Spec							
Co-60	063_3050	12-09-93	211	15.4	218	97	
Cs-137	063_3050	12-09-93	203	15.9	197	103	

Reagent Blank Analysis

MONTGOMERY L861

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier	
Ra-226	073 3124	0.26	2.0	01-03-94	0.04		
Ra-228	074 3123	0.84	4.0	12-28-93	0.24		
Ra-228	074 3751	0.66	4.0	01-07-94	-0.09		
Sr-90	065 2932	0.78	1.0	12-21-93	0.02		
H-3	066 3164	215	400	12-27-93	130		
U-234	108 2933	0.04	0.6	12-14-93	0.05		
U-235	108 2933	0.04	0.6	12-14-93	0.04		
U-238	108 2933	0.04	0.6	12-14-93	0.04		
Pu-239	108 3125	0.08	0.1	12-15-93	0.09		
Th-228	108 3417	0.08	1.0	12-21-93	0.04		
Th-230	108 3417	0.03	1.0	12-21-93	0.37		
Th-232	108 3417	0.05	1.0	12-21-93	0.06		
Th-228	108 3126	0.30	1.0	12-14-93	0.56		
Th-230	108 3126	0.19	1.0	12-14-93	0.51		
Th-232	108 3126	0.26	1.0	12-14-93	0.07		
Gamma Spec	063 3050	NO ACTIVITY DETECTED					

Duplicate Sample Analysis

MONTGOMERY L861

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073 3124	931105043	L861-1	01-03-94	0.08	0.12	0.08	0.11	0.00	1	
Ra-228	074 3123	931105043	L861-1	12-28-93	0.02	0.50	0.46	0.50	0.45	187	
Ra-228	074 3751	931210064	L1007-6	01-07-94	0.23	0.46	0.64	0.49	0.43	94	
Sr-90	065 2932	931206141	L889-3	12-21-93	-0.46	0.54	0.12	0.52	0.55	-341	
H-3	066 3164	931206139	L889-10	12-27-93	157	132	199	143	0.15	24	
U-234	108 2933	931124009	L813-2	12-14-93	1.57	0.53	1.25	0.48	0.32	23	
U-235	108 2933	931124009	L813-2	12-14-93	0.26	0.21	0.21	0.20	0.12	21	
U-238	108 2933	931124009	L813-2	12-14-93	1.08	0.44	0.81	0.39	0.33	29	
Pu-239	108 3125	931206140	L889-8	12-15-93	0.18	0.09	0.24	0.09	0.32	27	
Th-228	108 3417	931206141	L889-9	12-21-93	0.84	1.08	1.36	1.45	0.20	47	
Th-230	108 3417	931206141	L889-9	12-21-93	6.59	2.15	1.92	1.16	1.41	110	
Th-232	108 3417	931206141	L889-9	12-21-93	0.95	0.81	0.12	0.36	0.71	156	
Th-228	108 3126	931206139	L889-7	12-14-93	0.48	0.39	0.25	0.31	0.34	64	
Th-230	108 3126	931206139	L889-7	12-14-93	1.36	0.52	1.11	0.45	0.25	20	
Th-232	108 3126	931206139	L889-7	12-14-93	0.53	0.32	0.34	0.25	0.33	44	
Gamma Spec											
Bi-214	063 3050	WELL PM-2	L864-1	12-09-93	15.0	9.87	16.5	9.22	0.08	10	

Laboratory Control Sample Analysis

MONTGOMERY L861

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073 3124	01-03-94	11.6	0.89	11.5	102	
Ra-228	074 3123	12-28-93	24.7	1.04	22.9	108	
Ra-228	074 3751	01 07-94	47.8	1.34	45.7	105	
Sr-90	065 2932	12-21-93	27.9	1.04	26.5	105	
H-3	066 3164	12-27-93	4515	387	4271	106	
U-238	108 2933	12-14-93	5.72	0.73	5.68	101	
Pu-239	108 3125	12-15-93	12.0	0.80	11.6	104	
Tn-232	108 3417	12-21-93	5.61	0.65	5.43	103	
Th-232	108 3126	12-14-93	29.0	3.24	27.1	107	
Gamma Spec							
Co-60	063 3050	12-09-93	211	15.4	218	97	
Cs-137	063 3050	12-09-93	203	15.9	197	103	

Quality
Environmental
Analysis

Telephone
319 796 9141

455 East Walnut Street
P.O. Box 7009
Pasadena, California
91109 7009

Montgomery Laboratories

Subcontract Lab: LOCKHEED ANALYTICAL SERVICES
Address: 975 KELLY JOHNSON DRIVE
LAS VEGAS, NV 89119-3705

Date: 12-7-93

Phone Number: (800) 582-7605

Attention: _____

PO#: LAB-18082

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 3 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
<u>931206139</u>	<u>66690</u>	<u>12-2-93</u>	_____	<u>NORMAL TAT</u>	<u>STRONTIUM 90, TRITIUM, URANIUM, RAZZC, RAZZP, POTASSIUM-4 & VANADIUM 48 BY GAMMA SPEC, ISOTOPIC PLUTONIUM</u>	_____
<u>931206140</u>	<u>66745</u>	<u>12-3-93</u>	_____	<u>"</u>	<u>"</u>	_____
<u>931206141</u>	<u>66746</u>	<u>"</u>	_____	<u>"</u>	<u>"</u>	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: [Signature]

Date: 12-7-93

Received by: [Signature]

Date: 12/10/93

12-10-93

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 931206139

LAL Sample ID: L889-1

Date Collected: 02-DEC-93

Date Received: 08-DEC-93

Matrix: Water

Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	21-DEC-93	SR-90 LAL-0065_2932	-0.27	0.49	0.86		pCi/L
U-233/4	14-DEC-93	U-ISOTOPIC LAL-0108_2933	0.89	0.41	0.19		pCi/L
U-235	14-DEC-93	U-ISOTOPIC LAL-0108_2933	0.046	0.09	0.12		pCi/L
U-238	14-DEC-93	U-ISOTOPIC LAL-0108_2933	0.31	0.24	0.16		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206140
Date Collected: 03-DEC-93
Matrix: Water

LAL Sample ID: L889-2
Date Received: 08-DEC-93
Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	21-DEC-93	SR-90 LAL-0065_2932	-0.19	0.48	0.84		pCi/L
U-233/4	14-DEC-93	U-ISOTOPIC LAL-0108_2933	19.5	2.6	0.26		pCi/L
U-235	14-DEC-93	U-ISOTOPIC LAL-0108_2933	0.71	0.38	0.18		pCi/L
U-238	14-DEC-93	U-ISOTOPIC LAL-0108_2933	19.1	2.6	0.21		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206141

LAL Sample ID: L889-3

Date Collected: 03-DEC-93

Date Received: 08-DEC-93

Matrix: Water

Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	21-DEC-93	SR-90 LAL-0065_2932	-0.46	0.54	0.96		pCi/L
U-233/4	14-DEC-93	U-ISOTOPIC LAL-0108_2933	9.5	1.6	0.22		pCi/L
U-235	14-DEC-93	U-ISOTOPIC LAL-0108_2933	0.43	0.3	0.15		pCi/L
U-238	14-DEC-93	U-ISOTOPIC LAL-0108_2933	11.3	1.8	0.28		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206139

LAL Sample ID: L889-4

Date Collected: 02-DEC-93

Date Received: 08-DEC-93

Matrix: Water

Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	03-JAN-94	RA-226 LAL-0073_3124	0.96	0.28	0.21		pCi/L
Ra-228	28-DEC-93	RA-228 LAL-0074_3123	0.63	0.5	0.8		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206140
Date Collected: 03-DEC-93
Matrix: Water

LAL Sample ID: L889-5
Date Received: 08-DEC-93
Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	03-JAN-94	RA-226 LAL-0073_3124	1.16	0.31	0.24		pCi/L
Ra-228	28-DEC-93	RA-228 LAL-0074_3123	0.7	0.52	0.84		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206141

LAL Sample ID: L889-6

Date Collected: 03-DEC-93

Date Received: 08-DEC-93

Matrix: Water

Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	03-JAN-94	RA-226 LAL-0073_3124	0.67	0.21	0.046		pCi/L
Ra-228	28-DEC-93	RA-228 LAL-0074_3123	0.42	0.49	0.8		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206139
Date Collected: 02-DEC-93
Matrix: Water

LAL Sample ID: L889-7
Date Received: 08-DEC-93
Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.057	0.044	0.052		pCi/L
Pu-239/40	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.2	0.08	0.066		pCi/L
Th-228	14-DEC-93	TH-ISOTOPIC LAL-0108_3126	0.48	0.39	0.36		pCi/L
Th-230	14-DEC-93	TH-ISOTOPIC LAL-0108_3126	1.36	0.52	0.22		pCi/L
Th-232	14-DEC-93	TH-ISOTOPIC LAL-0108_3126	0.53	0.32	0.2		pCi/L

Sample description

Montgomery Labs water 931206139 1L marinelli AD9553
 LAL parent L889-7 batch 063_3130

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

NUCLIDE	TIME OF COUNT	ACTIVITY	TIME CORRECTED	ACTIVITY	UNCERTAINTY	2 SIGMA	TOTAL
		pCi/L		pCi/L	COUNTING		pCi/L
TH-234	<	1.47E+02		1.47E+02			
RA-226	<	1.57E+02		1.57E+02			
PB-214		1.6362E+01		1.6362E+01	9.49		9.56
BI-214		1.6595E+01		1.6596E+01	10.97		11.03
PB-210	<	1.86E+02		1.86E+02			
U-235	<	1.02E+01		1.02E+01			
AC-228	<	3.44E+01		3.44E+01			
PB-212	<	1.56E+01		1.56E+01			
BI-212	<	1.03E+02		1.03E+02			
TL-208	<	8.28E+00		8.28E+00			
K-40	<	1.24E+02		1.24E+02			
CO-60	<	2.05E+00		2.05E+00			
CS-134	<	1.03E+01		1.04E+01			
CS-137	<	7.44E+00		7.45E+00			
MN-54	<	3.29E+00		3.34E+00			
EU-152	<	1.63E+01		1.63E+01			
EU-154	<	9.98E+00		1.00E+01			
EU-155	<	1.09E+01		1.09E+01			
Ru-106	<	3.83E+01		3.88E+01			
AG-110M	<	9.23E+00		9.41E+00			
SB-125	<	1.10E+01		1.10E+01			
BE-7	<	2.45E+01		2.68E+01			
AM-241	<	1.98E+01		1.98E+01			

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 931206140
 Date Collected: 03-DEC-93
 Matrix: Water

LAL Sample ID: LB89-8
 Date Received: 08-DEC-93
 Login Number: LB89

Pu-238	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.019	0.064	0.12	pCi/L
Pu-239/40	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.18	0.086	0.07	pCi/L
Th-228	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	-1.05	0.74	1.6	pCi/L
Th-230	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	4.3	1.9	0.8	pCi/L
Th-232	21-DEC-93	TH-ISOTOPIC LAL_0108_3417	0	0	0.73	pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206140
Date Collected: 03-DEC-93
Matrix: Water

LAL Sample ID: L889-8
Date Received: 08-DEC-93
Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.019	0.064	0.12		pCi/L
Pu-239/40	15-DEC-93	PU-ISOTOPIC LAL-0108_3125	0.18	0.086	0.07		pCi/L
Th-228	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	-1.05	0.74	1.6		pCi/L
Th-230	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	4.3	1.9	0.8		pCi/L
Th-232							

Sample description

Montgomery Labs water 931206140 1 Liter Marinelli AD9554
LAL parent L889-8 batch 063_3130

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***** SUMMARY OF NUCLIDES IN SAMPLE *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY     ACTIVITY     COUNTING     TOTAL
          pCi/L       pCi/L       pCi/L       pCi/L
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
TH-234 <    1.47E+02    1.47E+02
RA-226 <    1.62E+02    1.62E+02
PB-214    5.7640E+01    5.7641E+01    13.42    14.06
BI-214    3.9103E+01    3.9103E+01    12.75    13.00
PB-210 <    1.83E+02    1.83E+02
U-235 <    9.78E+00    9.78E+00
AC-228    2.7390E+01    2.7390E+01    18.63    18.72
PB-212 <    1.76E+01    1.76E+01
BI-212 <    9.77E+01    9.77E+01
TL-208 <    8.99E+00    8.99E+00
K-40 <    9.65E+01    9.65E+01
CO-60 <    5.28E+00    5.30E+00
CS-134 <    1.33E+01    1.34E+01
CS-137 <    8.33E+00    8.33E+00
MN-54 <    3.62E+00    3.70E+00
EU-152 <    1.26E+01    1.26E+01
EU-154 <    8.17E+00    8.19E+00
EU-155 <    9.49E+00    9.53E+00
Ru-106 <    6.78E+01    6.91E+01
AG-110M <    5.18E+00    5.33E+00
SB-125 <    2.11E+01    2.12E+01
BE-7 <    3.93E+01    4.49E+01
AM-241 <    2.11E+01    2.11E+01

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RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206141

LAL Sample ID: L889-9

Date Collected: 03-DEC-93

Date Received: 08-DEC-93

Matrix: Water

Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	06-JAN-94	PU-ISOTOPIC LAL-0108_3361	0	0	0.99		pCi/L
Pu-239/40	21-DEC-93	PU-ISOTOPIC LAL-0108_3361	0.4	0.75	0.97		pCi/L
Th-228	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	0.8	1.1	1.2		pCi/L
Th-230	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	6.6	2.2	0.71		pCi/L
Th-232	21-DEC-93	TH-ISOTOPIC LAL-0108_3417	0.95	0.81	0.64		pCi/L

Sample description

Montgomery Labs water 931206141 1L marinelli AD9555
LAL parent L889-9 batch 063_3130

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*****  S U M M A R Y  O F  N U C L I D E S  I N  S A M P L E  *****
          TIME OF COUNT  TIME CORRECTED  UNCERTAINTY  2 SIGMA
NUCLIDE   ACTIVITY      ACTIVITY      COUNTING      TOTAL
          pCi/L         pCi/L         pCi/L         pCi/L
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
TH-234 <    1.87E+02      1.87E+02
RA-226 <    1.48E+02      1.48E+02
PB-214    6.1629E+01    6.1630E+01      13.27      14.01
BI-214    6.5973E+01    6.5974E+01      14.48      15.11
PB-210 <    1.87E+02      1.87E+02
U-235 <    1.06E+01      1.06E+01
AC-228 <    2.54E+01      2.54E+01
PB-212 <    1.63E+01      1.63E+01
BI-212 <    8.21E+01      8.21E+01
TL-208 <    7.79E+00      7.79E+00
K-40 <    9.29E+01      9.29E+01
CO-60 <    4.96E+00      4.97E+00
CS-134 <    1.54E+01      1.55E+01
CS-137 <    8.23E+00      8.23E+00
MN-54 <    5.90E+00      6.01E+00
EU-152 <    1.54E+01      1.54E+01
EU-154 <    1.08E+01      1.08E+01
EU-155 <    1.49E+01      1.49E+01
Ru-106 <    3.58E+01      3.63E+01
AG-110M <    7.56E+00      7.73E+00
SB-125 <    1.61E+01      1.62E+01
BE-7 <    8.13E+01      9.00E+01
AM-241 <    2.60E+01      2.60E+01

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RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206139

LAL Sample ID: L889-10

Date Collected: 02-DEC-93

Date Received: 08-DEC-93

Matrix: Water

Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	27-DEC-93	TRITIUM(H3) LAL-0066_3164	160	130	210		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206140

LAL Sample ID: L889-12

Date Collected: 03-DEC-93

Date Received: 08-DEC-93

Matrix: Water

Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	27-DEC-93	TRITIUM(H3) LAL-0066_3164	640	180	220		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 931206141
Date Collected: 03-DEC-93
Matrix: Water

LAL Sample ID: L889-14
Date Received: 08-DEC-93
Login Number: L889

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	27-DEC-93	TRITIUM(H3) LAL-0066_3164	80	130	220		pCi/L

Reagent Blank Analysis

MONTGOMERY L889

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Ra-226	073_3124	0.26	2.0	01-03-94	0.04	
Ra-228	074_3123	0.84	4.0	12-28-93	0.24	
Sr-90	065_2932	0.78	1.0	12-21-93	0.02	
H-3	066_3164	215	400	12-27-93	130	
U-234	108_2933	0.04	0.6	12-14-93	0.05	
U-235	108_2933	0.04	0.6	12-14-93	0.04	
U-238	108_2933	0.04	0.6	12-14-93	0.04	
Pu-239	108_3125	0.08	0.1	12-15-93	0.09	
Pu-239	108_3361	0.06	0.1	12-21-93	0.00	
Th-228	108_3417	0.08	1.0	12-21-93	0.04	
Th-230	108_3417	0.03	1.0	12-21-93	0.37	
Th-232	108_3417	0.05	1.0	12-21-93	0.06	
Th-228	108_3126	0.30	1.0	12-14-93	0.56	
Th-230	108_3126	0.19	1.0	12-14-93	0.51	
Th-232	108_3126	0.26	1.0	12-14-93	0.07	
Gamma Spec	063_3130	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L889

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073_3124	931105043	L861-1	01-03-94	0.08	0.12	0.08	0.11	0.00	1	
Ra-228	074_3123	931105043	L861-1	12-28-93	0.02	0.50	0.46	0.50	0.45	187	
Sr-90	065_2932	931206141	L889-3	12-21-93	-0.46	0.54	0.12	0.52	0.55	-341	
H-3	066_3164	931206139	L889-10	12-27-93	157	132	199	143	0.15	24	
U-234	108_2933	931124009	L813-2	12-14-93	1.57	0.53	1.25	0.48	0.32	23	
U-235	108_2933	931124009	L813-2	12-14-93	0.26	0.21	0.21	0.20	0.12	21	
U-238	108_2933	931124009	L813-2	12-14-93	1.08	0.44	0.81	0.39	0.33	29	
Pu-239	108_3125	931206140	L889-8	12-15-93	0.18	0.09	0.24	0.09	0.32	27	
Pu-239	108_3361	931206141	L889-9	12-21-93	0.40	0.75	-0.11	0.47	0.42	345	
Th-228	108_3417	931206141	L889-9	12-21-93	0.84	1.08	1.36	1.45	0.20	47	
Th-230	108_3417	931206141	L889-9	12-21-93	6.59	2.15	1.92	1.16	1.41	110	*
Th-232	108_3417	931206141	L889-9	12-21-93	0.95	0.81	0.12	0.36	0.71	156	
Th-228	108_3126	931206139	L889-7	12-14-93	0.48	0.39	0.25	0.31	0.34	64	
Th-230	108_3126	931206139	L889-7	12-14-93	1.36	0.52	1.11	0.45	0.25	20	
Th-232	108_3126	931206139	L889-7	12-14-93	0.53	0.32	0.34	0.25	0.33	44	
Gamma Spec											
Bi-214	063_3130	931206141	L889-9	12-22-93	66.0	14.48	85.5	15.02	0.66	26	

Laboratory Control Sample Analysis

MONTGOMERY L889

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073_3124	01-03-94	11.6	0.89	11.5	102	
Ra-228	074_3123	12-28-93	24.7	1.04	22.9	108	
Sr-90	065_2932	12-21-93	27.9	1.04	26.5	105	
H-3	066_3164	12-27-93	4515	387	4271	106	
U-238	108_2933	12-14-93	5.72	0.73	5.68	101	
Pu-239	108_3125	12-15-93	12.0	0.80	11.6	104	
Pu-239	108_3361	12-21-93	2.01	0.37	2.32	87	
Th-232	108_3417	12-21-93	5.61	0.65	5.43	103	
Th-232	108_3126	12-14-93	29.0	3.24	27.1	107	
Gamma Spec							
Co-60	063_3130	12-22-93	217	16.0	218	100	
Cs-137	063_3130	12-22-93	192	15.4	197	97	

115 E. Walnut Street
P.O. Box 7009
Pasadena, California
91109

Montgomery Laboratories

Subcontract Lab: LOCKHEED ANALYTICAL SERVICES
Address:

Date: 1-10-94

Phone Number:

Attention: _____

PO#: LAB-18204

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 1 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
940110011	70230	1-5-94		NORMAL TAT	STRONTIUM 90, TRITIUM, URANIUM, RADIUM 226, RADIUM 228, ESOTOPIC PLUTONIUM & THORIUM, GAMMA SPEC K-40 & V-48	

Special comments: _____

Relinquished by: [Signature]

Date: 1-10-94

Received by: [Signature]

Date: 1-11-94 08:30

FedEx 212 2580 162

0111350

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940110011

LAL Sample ID: L1051-1

Date Collected: 05-JAN-94

Date Received: 11-JAN-94

Matrix: Water

Login Number: L1051

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	26-JAN-94	TRITIUM(H3) LAL-0066_4446	20	110	210		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940110011

LAL Sample ID: L1051-3

Date Collected: 05-JAN-94

Date Received: 11-JAN-94

Matrix: Water

Login Number: L1051

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	09-FEB-94	SR-90 LAL-0065_4445	1.01	0.51	0.83		pCi/L
U-233/4	19-JAN-94	U-ISOTOPIC LAL-0108_4018	4.22	0.91	0.21		pCi/L
U-235	19-JAN-94	U-ISOTOPIC LAL-0108_4018	0.17	0.17	0.15		pCi/L
U-238	19-JAN-94	U-ISOTOPIC LAL-0108_4018	2.88	0.73	0.18		pCi/L

7.27

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940110011
Date Collected: 05-JAN-94
Matrix: Water

LAL Sample ID: L1051-4
Date Received: 11-JAN-94
Login Number: L1051

Constituent	Analyzed	Batch	Activity	Error	MDA	Data Qual	Units
Ra-226	28-JAN-94	RA-226 LAL-0073_4447	4.35	0.68	0.2		pCi/L
Ra-228	24-JAN-94	RA-228 LAL-0074_4448	1.75	0.38	0.56		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940110011

LAL Sample ID: L1051-5

Date Collected: 05-JAN-94

Date Received: 11-JAN-94

Matrix: Water

Login Number: L1051

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	24-JAN-94	PU-ISOTOPIC LAL-0108_4449	-0.022	0.1	0.15		pCi/L
Pu-239/40	24-JAN-94	PU-ISOTOPIC LAL-0108_4449	0.029	0.068	0.097		pCi/L
Th-228	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.37	0.22	0.18		pCi/L
Th-230	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.71	0.26	0.089		pCi/L
Th-232	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.2	0.13	0.059		pCi/L

Sample description
 Montgomery Labs water 940110011 1.5L marinelli A123X6
 LAL parent LAL1051-5 batch 063_4346

```

***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
          TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY       ACTIVITY       COUNTING       TOTAL
          pCi/L         pCi/L         pCi/L         pCi/L
-----+-----+-----+-----+-----+-----+-----+-----+-----+
TH-234 <    3.21E+02    3.21E+02
RA-226 <    7.05E+01    7.05E+01
PB-214    3.6386E+01  3.6387E+01    7.58    7.77
BI-214    3.2908E+01  3.2908E+01    6.22    6.31
PB-210 <    5.29E+02    5.29E+02
U-235 <    4.62E+00    4.62E+00
AC-228 <    1.66E+01    1.66E+01
PB-212 <    9.43E+00    9.43E+00
BI-212 <    3.72E+01    3.72E+01
TL-208 <    6.91E+00    6.91E+00
K-40     3.9546E+01  3.9546E+01   33.81   33.83
CO-60 <    1.06E+00    1.06E+00
CS-134 <    6.31E+00    6.37E+00
CS-137 <    2.49E+00    2.49E+00
V-48 #    3.8554E+00  5.7531E+00    4.20    4.21
    
```

All peaks for activity calculation had bad shape.

Reagent Blank Analysis

MONTGOMERY L1051

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Ra-226	073_4447	0.20	0.2	01-25-94	0.03	
Ra-228	074_4448	0.60	2.0	01-24-94	1.31	
Sr-90	065_4445	0.70	1.0	02-09-94	0.42	
H-3	066_4446	209	400	01-26-94	68.9	
U-234	108_4018	0.22	0.6	01-19-94	0.19	
U-235	108_4018	0.15	0.6	01-19-94	0.12	
U-238	108_4018	0.21	0.6	01-19-94	0.20	
Pu-239	108_4449	0.11	0.1	01-24-94	-0.00	
Th-228	108_4450	0.18	1.0	01-24-94	-0.01	
Th-230	108_4450	0.10	1.0	01-24-94	0.86	
Th-232	108_4450	0.08	1.0	01-24-94	0.20	
Gamma Spec	063_4346	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L1051

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073_4447	940110112	L1060-7	01-25-94	0.73	0.28	0.52	0.55	0.25	34	
Ra-228	074_4448	940110112	L1060-7	01-24-94	1.51	0.36	1.02	0.44	0.61	39	
Sr-90	065_4445	940110112	L1060-5	02-09-94	5.52	1.80	3.10	1.53	0.73	56	
H-3	066_4446	940103023	L1051-1	01-26-94	18.8	113	77.2	123	0.25	122	
U-234	108_4018	940103023	L1051-1	01-19-94	3.20	0.79	3.05	0.74	0.10	5	
U-235	108_4018	940103023	L1051-1	01-19-94	0.24	0.21	0.06	0.12	0.52	116	
U-238	108_4018	940103023	L1051-1	01-19-94	1.69	0.56	1.77	0.55	0.07	5	
Pu-239	108_4449	940110011	L1051-5	01-24-94	0.03	0.07	0.02	0.06	0.08	47	
Th-228	108_4450	940110011	L1051-5	01-24-94	0.37	0.22	0.42	0.22	0.11	12	
Th-230	108_4450	940110011	L1051-5	01-24-94	0.71	0.26	0.76	0.26	0.08	6	
Th-232	108_4450	940110011	L1051-5	01-24-94	0.20	0.13	0.20	0.14	0.03	3	
Gamma Spec											
Bi-214	063_4346	940110112	L1060-9	01-20-94	33.6	11.21	46.9	13.04	0.55	33	

Laboratory Control Sample Analysis

MONTGOMERY L1051

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073_4447	01-25-94	10.7	1.34	11.5	93	
Ra-228	074_4448	01-24-94	18.2	0.84	22.7	80	
Sr-90	065_4445	02-09-94	24.2	0.87	26.5	91	
H-3	066_4446	01-26-94	4290	377	4251	101	
U-238	108_4018	01-19-94	31.4	3.53	28.4	111	
Pu-239	108_4449	01-24-94	4.86	0.86	4.63	105	
Th-232	108_4450	01-24-94	12.5	1.54	10.9	115	
Gamma Spec							
Co-60	063_4346	01-20-94	215	18.4	218	99	
Cs-137	063_4346	01-20-94	175	18.4	197	89	



3109 3009

Montgomery Laboratories

Subcontract Lab: LOCKHEED ANALYTICAL SERVICES

Address:

Date: 1-11-94

Phone Number:

Attention: _____

PO#: LAB-18209

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 2 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
940110112	70401	1-7-94		NORMAL TAT	STRONTIUM 90, TRITIUM, URANIUM, RAZ226, RAZ228 ISOTOPIC PLUTONIUM & THORIUM, & Amm.	
9401101123	70402	"		"	SPEC K-40 & V-48 - SAME -	
	CHANGED PER CLING					
	AMPL 2/10/94					

Special comments: _____

Relinquished by: [Signature]

Date: 1-11-94

Received by: [Signature]

Date: 1-12-94 08:30

FedEx 212 2580 214

7112257

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940110112

LAL Sample ID: L1060-1

Date Collected: 07-JAN-94

Date Received: 12-JAN-94

Matrix: Water

Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	26-JAN-94	TRITIUM(H3) LAL-0066_4446	20 <i>20</i>	110	210		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940110113

LAL Sample ID: L1060-3

Date Collected: 07-JAN-94

Date Received: 12-JAN-94

Matrix: Water

Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	26-JAN-94	TRITIUM(H3) LAL-0066_4446	120	130	210		pCi/L

ND

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940110112

LAL Sample ID: L1060-5

Date Collected: 07-JAN-94

Date Received: 12-JAN-94

Matrix: Water

Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	09-FEB-94	SR-90 LAL-0065_4445	5.5	1.8	2.8		pCi/L
U-233/4	19-JAN-94	U-ISOTOPIC LAL-0108_4018	139	16	0.36		pCi/L
U-235	19-JAN-94	U-ISOTOPIC LAL-0108_4018	6.2	1.5	0.27		pCi/L
U-238	19-JAN-94	U-ISOTOPIC LAL-0108_4018	126	14	0.25		pCi/L

271.2

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940110113

LAL Sample ID: L1060-6

Date Collected: 07-JAN-94

Date Received: 12-JAN-94

Matrix: Water

Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	09-FEB-94	SR-90 LAL-0065_4445	0.7	1.5	2.6		pCi/L
U-233/4	19-JAN-94	U-ISOTOPIC LAL-0108_4018	69.6	7.5	0.25		pCi/L
U-235	19-JAN-94	U-ISOTOPIC LAL-0108_4018	4.8	1.1	0.24		pCi/L
U-238	19-JAN-94	U-ISOTOPIC LAL-0108_4018	66.6	7.2	0.2		pCi/L

14/

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940110112
Date Collected: 07-JAN-94
Matrix: Water

LAL Sample ID: L1060-7
Date Received: 12-JAN-94
Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	28-JAN-94	RA-226 LAL-0073_4447	0.73	0.28	0.2		pCi/L
Ra-228	24-JAN-94	RA-228 LAL-0074_4448	1.51	0.36	0.53		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940110113
Date Collected: 07-JAN-94
Matrix: Water

LAL Sample ID: L1060-8
Date Received: 12-JAN-94
Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	28-JAN-94	RA-226 LAL-0073_4447	0.16	0.21	0.34		pCi/L
Ra-228	24-JAN-94	RA-228 LAL-0074_4448	0.73	0.76	1.3		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940110112

LAL Sample ID: L1060-9

Date Collected: 07-JAN-94

Date Received: 12-JAN-94

Matrix: Water

Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	24-JAN-94	PU-ISOTOPIC LAL-0108_4449	0.021	0.081	0.11		pCi/L
Pu-239/40	24-JAN-94	PU-ISOTOPIC LAL-0108_4449	0.093	0.084	0.076		pCi/L
Th-228	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.14	0.16	0.16		pCi/L
Th-230	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.92	0.29	0.087		pCi/L
Th-232	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.33	0.17	0.087		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940110113

LAL Sample ID: L1060-10

Date Collected: 07-JAN-94

Date Received: 12-JAN-94

Matrix: Water

Login Number: L1060

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	24-JAN-94	PU-ISOTOPIC LAL-0108_4449	-0.08	0.084	0.16		pCi/L
Pu-239/40	24-JAN-94	PU-ISOTOPIC LAL-0108_4449	0.16	0.13	0.099		pCi/L
Th-228	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.03	0.11	0.15		pCi/L
Th-230	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.71	0.24	0.055		pCi/L
Th-232	24-JAN-94	TH-ISOTOPIC LAL-0108_4450	0.35	0.17	0.087		pCi/L

Sample description

Mongomery Labs water 940110112 1L marinelli A123X5
LAL parent L1060-9 batch 063_4346

```

***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
          TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY       ACTIVITY       COUNTING       TOTAL
          pCi/L          pCi/L          pCi/L          pCi/L
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
TH-234 <    1.51E+02         1.51E+02
RA-226 <    1.43E+02         1.43E+02
PB-214    2.4376E+01       2.4376E+01       10.63          10.68
BI-214    3.3583E+01       3.3583E+01       11.21          11.25
PB-210 <    1.52E+02         1.52E+02
U-235    6.4673E+00         6.4673E+00         5.06           5.06
AC-228 <    2.88E+01         2.88E+01
PB-212 <    1.35E+01         1.35E+01
BI-212 <    6.47E+01         6.47E+01
TL-208 <    6.51E+00         6.51E+00
K-40    <    7.54E+01         7.54E+01
CO-60    <    2.41E+00         2.41E+00
CS-134 <    1.16E+01         1.17E+01
CS-137 <    6.07E+00         6.08E+00
V-48    <    4.89E+00         6.65E+00

```

Sample description

Montgomery Labs water 940110113 1.5L in marinelli A123X4
LAL parent L1060-10 batch 063_4346

```

***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE      ACTIVITY      ACTIVITY      COUNTING      TOTAL
              pCi/L        pCi/L        pCi/L        pCi/L
+-----+-----+-----+-----+-----+-----+
TH-234 <      2.08E+02      2.08E+02
RA-226 <      8.60E+01      8.60E+01
PB-214      1.8802E+02      1.8802E+02      10.86      13.89
BI-214      1.8092E+02      1.8093E+02      9.92      11.53
PB-210 <      5.05E+02      5.06E+02
U-235 <      4.31E+00      4.31E+00
AC-228 <      1.45E+01      1.45E+01
PB-212 <      1.09E+01      1.09E+01
BI-212 <      4.14E+01      4.14E+01
TL-208 <      5.88E+00      5.88E+00
K-40 <      4.69E+01      4.69E+01
CO-60 <      3.41E+00      3.42E+00
CS-134 <      1.00E+01      1.01E+01
CS-137 <      3.93E+00      3.93E+00
V-48 <      1.58E+00      2.15E+00

```

Reagent Blank Analysis

MONTGOMERY L1060

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Ra-226	073_4447	0.20	0.2	01-25-94	0.03	
Ra-228	074_4448	0.60	2.0	01-24-94	1.31	
Sr-90	065_4445	0.70	1.0	02-09-94	0.42	
H-3	066_4446	209	400	01-26-94	68.9	
U-234	108_4018	0.22	0.6	01-19-94	0.19	
U-235	108_4018	0.15	0.6	01-19-94	0.12	
U-238	108_4018	0.21	0.6	01-19-94	0.20	
Pu-239	108_4449	0.11	0.1	01-24-94	-0.00	
Th-228	108_4450	0.18	1.0	01-24-94	-0.01	
Th-230	108_4450	0.10	1.0	01-24-94	0.86	
Th-232	108_4450	0.08	1.0	01-24-94	0.20	
Gamma Spec	063_4346	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L1060

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073_4447	940110112	L1060-7	01-25-94	0.73	0.28	0.52	0.55	0.25	34	
Ra-228	074_4448	940110112	L1060-7	01-24-94	1.51	0.36	1.02	0.44	0.61	39	
Sr-90	065_4445	940110112	L1060-5	02-09-94	5.52	1.80	3.10	1.53	0.73	56	
H-3	066_4446	940103023	L1051-1	01-26-94	18.8	113	77.2	123	0.25	122	
U-234	108_4018	940103023	L1051-1	01-19-94	3.20	0.79	3.05	0.74	0.10	5	
U-235	108_4018	940103023	L1051-1	01-19-94	0.24	0.21	0.06	0.12	0.52	116	
U-238	108_4018	940103023	L1051-1	01-19-94	1.69	0.56	1.77	0.55	0.07	5	
Pu-239	108_4449	940110011	L1051-5	01-24-94	0.03	0.07	0.02	0.06	0.08	47	
Th-228	108_4450	940110011	L1051-5	01-24-94	0.37	0.22	0.42	0.22	0.11	12	
Th-230	108_4450	940110011	L1051-5	01-24-94	0.71	0.26	0.76	0.26	0.08	6	
Th-232	108_4450	940110011	L1051-5	01-24-94	0.20	0.13	0.20	0.14	0.03	3	
Gamma Spec											
Bi-214	063_4346	940110112	L1060-9	01-20-94	33.6	11.21	46.9	13.04	0.55	33	

Laboratory Control Sample Analysis

MONTGOMERY L1060

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073_4447	01-25-94	10.7	1.34	11.5	93	
Ra-228	074_4448	01-24-94	18.2	0.84	22.7	80	
Sr-90	065_4445	02-09-94	24.2	0.87	26.5	91	
H-3	066_4446	01-26-94	4290	377	4251	101	
U-238	108_4018	01-19-94	31.4	3.53	28.4	111	
Pu-239	108_4449	01-24-94	4.86	0.86	4.63	105	
Th-232	108_4450	01-24-94	12.5	1.54	10.9	115	
Gamma Spec							
Co-60	063_4346	01-20-94	215	18.4	218	99	
Cs-137	063_4346	01-20-94	175	18.4	197	89	

L1233

Quality
Control
Systems

Telephone
518 796 9141

1000
1000
1000
1000
1000

Montgomery Laboratories

Contract Lab: LOCKHEED
Address:



Date: 2-8-94

(612) 566-6452

Phone Number:

Attention: _____

PO#: LAB-18318

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 3 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
<u>940207158</u>	<u>71568</u>	<u>2-3-94</u>		<u>NORMAL TAT</u>	<u>STRONTIUM 90, TRITIUM, URANIUM, RA226, 228, POTASSIUM-40 & VANADIUM-48 BY GAMMA SPEC ISOTOPIC PLUTONIUM, ISOTOPIC THORIUM</u>	
<u>940208035</u>	<u>71637</u>	<u>2-4-94</u>		<u>"</u>	<u>"</u>	
<u>940207159</u>	<u>71571</u>	<u>2-3-94</u>		<u>"</u>	<u>SRAO, H3, U, RA226 & 228</u>	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: [Signature]

Date: 2-8-94

Received by: [Signature]

Date: 2-9-94 0900

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940207158

LAL Sample ID: L1233-1

Date Collected: 03-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	07-MAR-94	SR-90 LAL-0065_5208	-0.13	0.36	0.64		pCi/L
U-233/4	02-MAR-94	U-ISOTOPIC LAL-0108_5209	3.16	0.76	0.19		pCi/L
U-235	02-MAR-94	U-ISOTOPIC LAL-0108_5209	0.19	0.18	0.16		pCi/L
U-238	02-MAR-94	U-ISOTOPIC LAL-0108_5209	2.32	0.64	0.15		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940208035

LAL Sample ID: L1233-2

Date Collected: 04-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	Dataout	Units
Sr-90	07-MAR-94	SR-90 LAL-0065_5208	0	0.4	0.68		pCi/L
U-233/4	02-MAR-94	U-ISOTOPIC LAL-0108_5209	8.2	1.4	0.22		pCi/L
U-235	02-MAR-94	U-ISOTOPIC LAL-0108_5209	0.36	0.26	0.16		pCi/L
U-238	02-MAR-94	U-ISOTOPIC LAL-0108_5209	6.5	1.2	0.2		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940207159

LAL Sample ID: L1233-3

Date Collected: 03-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MOA	DataQual	Units
Sr-90	07-MAR-94	SR-90 LAL-0065_5208	0.5	4.4	7.6		pCi/L
U-233/4	02-MAR-94	U-ISOTOPIC LAL-0108_5209	0.45	0.35	0.27		pCi/L
U-235	02-MAR-94	U-ISOTOPIC LAL-0108_5209	0.34	0.28	0.2		pCi/L
U-238	02-MAR-94	U-ISOTOPIC LAL-0108_5209	0.67	0.4	0.22		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940207158

LAL Sample ID: L1233-4

Date Collected: 03-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	02-MAR-94	RA-226 LAL-0073_5201	0.18	0.14	0.19		pCi/L
Ra-228	25-FEB-94	RA-228 LAL-0074_5199	0.1	0.37	0.63		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940208035
Date Collected: 04-FEB-94
Matrix: Water

LAL Sample ID: L1233-5
Date Received: 09-FEB-94
Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	02-MAR-94	RA-226 LAL-0073_5201	2.65	0.43	0.048		pCi/L
Ra-228	25-FEB-94	RA-228 LAL-0074_5199	0.25	0.33	0.55		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940207159

LAL Sample ID: L1233-6

Date Collected: 03-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	02-MAR-94	RA-226 LAL-0073_5201	0.62	0.28	0.31		pCi/L
Ra-228	25-FEB-94	RA-228 LAL-0074_5199	0.48	0.67	1.1		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940207158

LAL Sample ID: L1233-7

Date Collected: 03-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	02-MAR-94	PU-ISOTOPIC LAL-0108_5215	0.128	0.038	0.028		pCi/L
Pu-239/40	02-MAR-94	PU-ISOTOPIC LAL-0108_5215	0.122	0.04	0.039		pCi/L
Th-228	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	-0.043	0.088	0.15		pCi/L
Th-230	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.17	0.13	0.098		pCi/L
Th-232	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.073	0.079	0.076		pCi/L

Sample description

Montgomery Labs water 940207158 1L marinelli 5198-9
LAL Parent L1233-7 Batch 063_5198

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***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY     ACTIVITY     COUNTING     TOTAL
          pCi/L       pCi/L       pCi/L       pCi/L
+-----+-----+-----+-----+-----+-----+
TH-234 <    1.77E+02    1.77E+02
RA-226 <    1.75E+02    1.75E+02
PB-214    3.3413E+01  3.3414E+01    16.03    16.09
BI-214    3.1237E+01  3.1237E+01    12.65    12.68
PB-210 <    2.18E+02    2.18E+02
U-235 <    1.19E+01    1.19E+01
AC-228 <    2.24E+01    2.24E+01
PB-212 <    1.62E+01    1.62E+01
BI-212    5.6848E+01  5.6848E+01    54.68    54.71
TL-208 <    9.03E+00    9.03E+00
K-40 <    1.01E+02    1.01E+02
CO-60 <    3.98E+00    4.00E+00
CS-134 <    1.24E+01    1.26E+01
CS-137 <    4.56E+00    4.56E+00
V-48 <    3.03E+00    5.30E+00

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RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940208035

LAL Sample ID: L1233-8

Date Collected: 04-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	02-MAR-94	PU-ISOTOPIC LAL-0108_5215	0.117	0.039	0.0091		pCi/L
Pu-239/40	02-MAR-94	PU-ISOTOPIC LAL-0108_5215	0.064	0.036	0.044		pCi/L
Th-228	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.21	0.17	0.15		pCi/L
Th-230	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.76	0.25	0.084		pCi/L
Th-232	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.27	0.15	0.069		pCi/L

Sample description

Montgomery Labs water 940208035 1.5L in marinelli 5198-10
LAL Parent L1233-8 Batch 063_5198

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***** S U M M A R Y   O F   N U C L I D E S   I N   S A M P L E   *****
          TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY       ACTIVITY       COUNTING       TOTAL
          pCi/L         pCi/L         pCi/L         pCi/L
+-----+-----+-----+-----+-----+-----+
TH-234 <    1.71E+02      1.71E+02
RA-226      8.4401E+01     8.4403E+01     45.76      46.45
PB-214 <    8.95E+00      8.95E+00
BI-214      9.9211E+00     9.9214E+00     5.71      5.72
PB-210 <    4.89E+02      4.90E+02
U-235 <    5.18E+00      5.18E+00
AC-228 <    1.27E+01      1.27E+01
PB-212 <    8.67E+00      8.67E+00
BI-212 <    4.35E+01      4.35E+01
TL-208 #    4.6588E+00     4.6588E+00     4.14      4.14
K-40 <     4.50E+01      4.50E+01
CO-60 #    2.1881E+00     2.2078E+00     1.67      1.67
CS-134 <    5.08E+00      5.20E+00
CS-137 <    1.20E+00      1.20E+00
V-48 <     1.56E+00      4.53E+00

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RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940207158
Date Collected: 03-FEB-94
Matrix: Water

LAL Sample ID: L1233-9
Date Received: 09-FEB-94
Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	04-MAR-94	TRITIUM(H3) LAL-0066_5203	-50	130	270		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940208035

LAL Sample ID: L1233-11

Date Collected: 04-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	04-MAR-94	TRITIUM(H3) LAL-0066_5203	70	150	270		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940207159

LAL Sample ID: L1233-13

Date Collected: 03-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	04-MAR-94	TRITIUM(H3) LAL-0066_5203	3540	430	260		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940207159

LAL Sample ID: L1233-15

Date Collected: 03-FEB-94

Date Received: 09-FEB-94

Matrix: Water

Login Number: L1233

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	02-MAR-94	PU-ISOTOPIC LAL-0108_5215	0.124	0.039	0.022		pCi/L
Pu-239/40	02-MAR-94	PU-ISOTOPIC LAL-0108_5215	0.1	0.035	0.022		pCi/L
Th-228	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.11	0.17	0.19		pCi/L
Th-230	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.56	0.23	0.099		pCi/L
Th-232	03-MAR-94	TH-ISOTOPIC LAL-0108_5693	0.13	0.11	0.084		pCi/L

Sample description

Montgomery Labs water 940207158 1.5L marinelli 5198-11
LAL Parent L1233-15 Batch 063_5198

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

NUCLIDE	TIME OF COUNT	TIME CORRECTED	UNCERTAINTY	2 SIGMA
	ACTIVITY	ACTIVITY	COUNTING	TOTAL
	pCi/L	pCi/L	pCi/L	pCi/L
TH-234 <	2.04E+02	2.04E+02		
RA-226	7.7977E+01	7.7979E+01	55.74	56.22
PB-214 <	8.75E+00	8.75E+00		
BI-214	1.2781E+01	1.2781E+01	6.69	6.71
PB-210 <	4.74E+02	4.74E+02		
U-235 <	6.25E+00	6.25E+00		
AC-228 <	1.42E+01	1.42E+01		
PB-212	8.1858E+00	8.1858E+00	5.06	5.12
BI-212 <	4.56E+01	4.56E+01		
TL-208	5.3636E+00	5.3636E+00	3.86	3.86
K-40	1.9052E+02	1.9052E+02	41.71	41.94
CO-60 <	1.76E+00	1.77E+00		
CS-134 <	4.81E+00	4.90E+00		
CS-137 <	3.13E+00	3.14E+00		
V-48 <	1.64E+00	3.62E+00		

Reagent Blank Analysis

MONTGOMERY L1233

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Ra-226	073_5201	0.21	0.2	03-02-94	0.00	
Ra-228	074_5199	0.67	2.0	02-25-94	0.73	
Sr-90	065_5208	0.63	1.0	03-07-93	0.28	
H-3	066_5203	263	400	03-04-94	91.1	
U-234	108_5209	0.21	0.6	03-02-94	0.45	
U-235	108_5209	0.15	0.6	03-02-94	0.07	
U-238	108_5209	0.18	0.6	03-02-94	0.29	
Pu-239	108_5215	0.04	0.1	03-02-94	0.09	
Th-228	108_5693	0.13	1.0	03-03-94	0.09	
Th-230	108_5693	0.07	1.0	03-03-94	0.21	
Th-232	108_5693	0.07	1.0	03-03-94	0.00	
Gamma Spec	063_5198	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L1233

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073_5201	940110001	L1192-1	03-02-94	0.38	0.24	0.55	0.33	0.31	38	
Ra-228	074_5199	940110001	L1192-1	02-25-94	0.16	0.62	0.87	0.60	0.57	137	
Sr-90	065_5208	940207026	L1213-1	03-07-93	-0.13	0.43	0.50	0.41	0.75	341	
H-3	066_5203	WELL 311	L1220-1	03-04-94	42.3	146	-93.0	113	0.52	-534	
U-234	108_5209	940207027	L1213-2	03-02-94	8.21	1.38	7.14	1.26	0.40	14	
U-235	108_5209	940207027	L1213-2	03-02-94	0.19	0.18	0.14	0.16	0.16	32	
U-238	108_5209	940207027	L1213-2	03-02-94	6.5	1.20	6.81	1.23	0.13	5	
Pu-239	108_5215	940207158	L1233-7	03-02-94	0.12	0.04	0.15	0.05	0.26	17	
Th-228	108_5693	940207158	L1233-7	03-03-94	-0.04	0.09	0.07	0.11	0.55	888	
Th-230	108_5693	940207158	L1233-7	03-03-94	0.17	0.13	0.41	0.20	0.74	82	
Th-232	108_5693	940207158	L1233-7	03-03-94	0.07	0.08	0.11	0.10	0.21	40	
Gamma Spec											
K-40	063_5198	WELL 311	L1220-1	03-09-94	63.3	57.0	80.9	80.9	0.13	24	

Laboratory Control Sample Analysis

MONTGOMERY L1233

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073_5201	03-02-94	5.92	0.66	5.73	103	
Ra-228	074_5199	02-25-94	8.14	0.62	11.2	73	
Sr-90	065_5208	03-07-93	27.2	0.97	26.4	103	
H-3	066_5203	03-04-94	4133	462	4227	98	
U-234	108_5209	03-02-94	28.3	3.12	28.3	100	
U-235	108_5209	03-02-94	1.22	0.46	1.30	94	
U-238	108_5209	03-02-94	30.0	3.25	28.4	106	
Pu-239	108_5215	03-02-94	4.88	0.31	4.63	105	
Th-232	108_5693	03-03-94	11.1	1.28	10.9	102	
Gamma Spec							
Co-60	063_5198	03-09-94	217	17.8	218	100	
Cs-137	063_5198	03-09-94	202	15.9	197	103	



Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:

Date: 3-1-94

Phone Number:

Attention: _____

PO#: SUB-009

Please provide results by mail/fax telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 7 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
<u>940207026</u>	<u>71469</u>	<u>2-2-94</u>		<u>normal TAT</u>	<u>RA226 & RA228</u>	
<u>940208102</u>	<u>71728</u>	<u>2-7-94</u>		<u>"</u>	<u>"</u>	
<u>940225129</u>	<u>72541</u>	<u>2-22-94</u>		<u>"</u>	<u>STRONTIUM 90, TRITIUM, URANIUM</u>	
<u>940224179</u>	<u>72592</u>	<u>2-23-94</u>		<u>"</u>	<u>SR90, H3, U, RA226 & 228, K-40 & V-48 BY GAMMA SPECT, PLUS URANIUM & THORU</u>	
<u>946224186</u>	<u>72593</u>	<u>"</u>		<u>"</u>	<u>- SAME -</u>	
<u>940223073</u>	<u>72524</u>	<u>2-22-94</u>		<u>"</u>	<u>- SAME -</u>	
<u>940301024</u>	<u>72711</u>	<u>2-25-94</u>		<u>"</u>	<u>STRONTIUM 90, TRITIUM, URANIUM</u>	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Special comments: SAMPLES ARE IN TWO (2) COOLERS.

Relinquished by: [Signature]

Date: 3-1-94

Received by: [Signature]

Date: 3-2-94 0830

FedEx

212 2582 122

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940224179

LAL Sample ID: L1372-3

Date Collected: 23-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	11-APR-94	RA-226 LAL-0073_6109	0.4	0.21	0.26		pCi/L
Ra-228	11-APR-94	RA-228 LAL-0074_6981	0.58	0.35	0.57		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940224180
Date Collected: 23-FEB-94
Matrix: Water

LAL Sample ID: L1372-4
Date Received: 02-MAR-94
Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	11-APR-94	RA-226 LAL-0073_6109	0.64	0.24	0.19		pCi/L
Ra-228	11-APR-94	RA-228 LAL-0074_6981	0.69	0.37	0.58		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940223073

LAL Sample ID: L1372-5

Date Collected: 22-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQuat	Units
Radium-226	11-APR-94	RA-226 LAL-0073_6109	0.46	0.21	0.22		pCi/L
Ra-228	11-APR-94	RA-228 LAL-0074_6981	0.33	0.35	0.58		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940224179

LAL Sample ID: L1372-7

Date Collected: 23-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	21-MAR-94	SR-90 LAL-0065_5911	-0.6	1	1.8		pCi/L
U-233/4	10-MAR-94	U-ISOTOPIC LAL-0108_5995	21	2.2	0.17		pCi/L
U-235	10-MAR-94	U-ISOTOPIC LAL-0108_5995	1.05	0.42	0.11		pCi/L
U-238	10-MAR-94	U-ISOTOPIC LAL-0108_5995	22.2	2.2	0.15		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940224180

LAL Sample ID: L1372-8

Date Collected: 23-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	Detected	Units
Sr-90	21-MAR-94	SR-90 LAL-0065_5911	0.3	4.5	7.8		pCi/L
U-233/4	21-MAR-94	U-ISOTOPIC LAL-0108_5888	9.9	1	0.38		pCi/L
U-235	21-MAR-94	U-ISOTOPIC LAL-0108_5888	0.76	0.29	0.23		pCi/L
U-238	21-MAR-94	U-ISOTOPIC LAL-0108_5888	9.9	1	0.3		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940223073

LAL Sample ID: L1372-9

Date Collected: 22-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	21-MAR-94	SR-90 LAL-0065_5911	-0.17	0.49	0.85		pCi/L
U-233/4	10-MAR-94	U-ISOTOPIC LAL-0108_5995	1.98	0.6	0.16		pCi/L
U-235	10-MAR-94	U-ISOTOPIC LAL-0108_5995	0.27	0.22	0.12		pCi/L
U-238	10-MAR-94	U-ISOTOPIC LAL-0108_5995	1.27	0.47	0.12		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940224179

LAL Sample ID: L1372-11

Date Collected: 23-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQuest	Units
Pu-238	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	0.15	0.12	0.11		pCi/L
Pu-239/40	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	0.16	0.11	0.079		pCi/L
Th-228	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.16	0.16	0.16		pCi/L
Th-230	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.82	0.27	0.083		pCi/L
Th-232	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.16	0.12	0.088		pCi/L

Sample description

Montgomery Water 9240224179
LAL parent L1372-111 L. Marinelli 5897-4
batch 063_5897

***** SUMMARY OF NUCLIDES IN SAMPLE *****

NUCLIDE	TIME OF COUNT	TIME CORRECTED	UNCERTAINTY	2 SIGMA
	ACTIVITY	ACTIVITY	COUNTING	TOTAL
	pCi/L	pCi/L	pCi/L	pCi/L
TH-234 <	1.73E+02	1.73E+02		
RA-226 <	1.54E+02	1.54E+02		
PB-214	3.0302E+01	3.0303E+01	11.56	11.64
BI-214	4.0088E+01	4.0089E+01	15.62	15.67
PB-210 <	1.79E+02	1.79E+02		
U-235 <	8.93E+00	8.93E+00		
AC-228 <	2.65E+01	2.65E+01		
PB-212 <	1.62E+01	1.62E+01		
BI-212 <	6.88E+01	6.88E+01		
TL-208 <	8.04E+00	8.04E+00		
K-40 <	9.54E+01	9.54E+01		
CO-60 <	5.42E+00	5.46E+00		
CS-134 <	1.23E+01	1.25E+01		
CS-137 <	5.87E+00	5.87E+00		
V-48 <	4.46E+00	1.02E+01		

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940224180

LAL Sample ID: L1372-12

Date Collected: 23-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	0.1	0.11	0.12		pCi/L
Pu-239/40	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	0.095	0.092	0.087		pCi/L
Th-228	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.48	0.24	0.16		pCi/L
Th-230	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.9	0.29	0.079		pCi/L
Th-232	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.15	0.12	0.091		pCi/L

Sample description
 Montgomery water 940224180 1L marinelli 5897-5
 LAL parent L1372-11 *12 YG 4/11/94* batch 063_5897

***** SUMMARY OF NUCLIDES IN SAMPLE *****

NUCLIDE	TIME OF COUNT	TIME CORRECTED	UNCERTAINTY	2 SIGMA
	ACTIVITY	ACTIVITY	COUNTING	TOTAL
	pCi/L	pCi/L	pCi/L	pCi/L
TH-234 <	1.64E+02	1.64E+02		
RA-226 <	1.50E+02	1.50E+02		
PB-214	2.3224E+01	2.3224E+01	10.14	10.19
BI-214 #	2.4406E+01	2.4406E+01	14.80	14.81
PB-210 <	1.79E+02	1.79E+02		
U-235 <	9.84E+00	9.84E+00		
AC-228 <	2.75E+01	2.75E+01		
PB-212	1.1101E+01	1.1101E+01	8.93	8.94
BI-212 <	9.56E+01	9.56E+01		
TL-208 <	9.03E+00	9.03E+00		
K-40 <	1.20E+02	1.20E+02		
CO-60 <	5.01E+00	5.05E+00		
CS-134 <	1.13E+01	1.15E+01		
CS-137 <	6.13E+00	6.13E+00		
V-48 <	8.17E+00	1.95E+01		

All peaks for activity calculation had bad shape.

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940223073

LAL Sample ID: L1372-13

Date Collected: 22-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Pu-238	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	0.13	0.13	0.12		pCi/L
Pu-239/40	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	0.25	0.14	0.083		pCi/L
Th-228	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.05	0.24	0.29		pCi/L
Th-230	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.67	0.3	0.13		pCi/L
Th-232	21-MAR-94	TH-ISOTOPIC LAL-0108_5919	0.39	0.22	0.11		pCi/L

Sample description

Montgomery Water 940223073 1.5L in 2L Marinelli 5897-6
LAL parent L1372-13 batch 063_5897

```

***** SUMMARY OF NUCLIDES IN SAMPLE *****
      TIME OF COUNT   TIME CORRECTED   UNCERTAINTY   2 SIGMA
NUCLIDE   ACTIVITY     ACTIVITY     COUNTING     TOTAL
          pCi/L       pCi/L       pCi/L       pCi/L
+-----+-----+-----+-----+-----+-----+
TH-234 <    2.56E+02    2.56E+02
RA-226 <    7.06E+01    7.06E+01
PB-214 <    7.66E+00    7.66E+00
BI-214 <    7.92E+00    7.92E+00
PB-210 <    3.21E+02    3.22E+02
U-235 <    4.48E+00    4.48E+00
AC-228 <    1.24E+01    1.24E+01
PB-212 <    7.43E+00    7.43E+00
BI-212 <    3.54E+01    3.54E+01
TL-208 #    6.1049E+00    6.1049E+00          3.44          3.44
K-40      3.7459E+01    3.7459E+01        29.62        29.64
CO-60 <    2.02E+00    2.03E+00
CS-134 <    4.26E+00    4.34E+00
CS-137    1.3600E+00    1.3617E+00          1.26          1.26
V-48 <    1.88E+00    4.48E+00
  
```

All peaks for activity calculation had bad shape.

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940224179
Date Collected: 23-FEB-94
Matrix: Water

LAL Sample ID: L1372-16
Date Received: 02-MAR-94
Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	NDA	DataQual	Units
H-3	17-MAR-94	TRITIUM(H3) LAL-0066_6001	510	210	280		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940224180

LAL Sample ID: L1372-18

Date Collected: 23-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	17-MAR-94	TRITIUM(H3) LAL-0066_6001	-50	130	260		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940223073

LAL Sample ID: L1372-20

Date Collected: 22-FEB-94

Date Received: 02-MAR-94

Matrix: Water

Login Number: L1372

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	17-MAR-94	TRITIUM(H3) LAL-0066_6001	20	140	260		pCi/L

Reagent Blank Analysis

MONTGOMERY L1372

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Ra-226	073_6109	0.20	0.2	03-28-94	0.08	
Ra-228	074_6981	0.56	2.0	04-08-94	0.03	
Ra-228	074_6104	0.85	2.0	03-25-94	0.20	
Sr-90	065_5911	0.68	1.0	03-21-93	0.00	
H-3	066_6001	267	400	03-17-94	29.8	
U-234	108_5995	0.17	0.6	03-10-94	0.52	
U-235	108_5995	0.16	0.6	03-10-94	0.31	
U-238	108_5995	0.22	0.6	03-10-94	0.57	
U-234	108_5888	0.04	0.6	03-21-94	0.11	
U-235	108_5888	0.03	0.6	03-21-94	0.06	
U-238	108_5888	0.03	0.6	03-21-94	0.08	
Pu-239	108_5908	0.05	0.1	03-21-94	0.08	
Th-228	108_5919	0.12	1.0	03-21-94	-0.05	
Th-230	108_5919	0.07	1.0	03-21-94	0.50	
Th-232	108_5919	0.06	1.0	03-21-94	0.06	
Gamma Spec						
K-40	063_5897	76.3	100	03-16-94	57.9	
V-48	063_5897	NO ACTIVITY DETECTED				

Duplicate Sample Analysis

MONTGOMERY L1372

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073_6109	940207026	L1372-1	03-28-94	0.04	0.11	0.02	0.09	0.10	69	
Ra-228	074_6981	LCS	6981LCS	04-08-94	44.70	1.28	36.50	1.17	3.35	20	
Ra-228	074_6104	940207026	L1372-1	03-25-94	1.02	0.46	0.34	0.46	0.74	100	
Sr-90	065_5911	940224180	L1372-8	03-21-93	0.25	4.51	2.20	2.63	0.27	159	
H-3	066_6001	NC7-71	L1342-1	03-17-94	1054	258	1261	278	0.39	18	
U-234	108_5995	NC7-16	L1342-4	03-10-94	10.4	1.45	10.5	1.52	0.04	1	
U-235	108_5995	NC7-16	L1342-4	03-10-94	1.16	0.45	0.89	0.41	0.31	26	
U-238	108_5995	NC7-16	L1342-4	03-10-94	16.8	1.92	14.4	1.82	0.65	16	
U-234	108_5888	EMSL-LV PE	L1355-1	03-21-94	5.10	0.63	5.55	0.73	0.33	8	
U-235	108_5888	EMSL-LV PE	L1355-1	03-21-94	0.31	0.14	0.40	0.18	0.26	23	
U-238	108_5888	EMSL-LV PE	L1355-1	03-21-94	5.02	0.63	5.01	0.69	0.00	0	
Pu-239	108_5908	940224179	L1372-11	03-21-94	0.16	0.11	0.03	0.05	0.87	141	
Th-228	108_5919	940224179	L1372-11	03-21-94	0.16	0.16	0.14	0.15	0.05	11	
Th-230	108_5919	940224179	L1372-11	03-21-94	0.82	0.27	0.40	0.19	0.93	70	
Th-232	108_5919	940224179	L1372-11	03-21-94	0.16	0.12	0.08	0.09	0.39	68	
Gamma Spec											
K-40	063_5897	940224179	L1372-11	03-16-94	95.4	95.4	95.3	54.5	0.00	0	
V-48	063_5897	940224179	L1372-11	03-16-94	10.2	10.2	12.9	12.9	0.12	23	

Laboratory Control Sample Analysis

MONTGOMERY L1372

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073_6109	03-28-94	5.31	0.63	5.73	93	
Ra-228	074_6981	04-08-94	44.70	1.28	44.3	101	
Ra-228	074_6104	03-25-94	20.66	1.00	11.1	186	*
Sr-90	065_5911	03-21-93	22.2	0.86	26.4	84	
H-3	066_6001	03-17-94	4219	462	4219	100	
U-234	108_5995	03-10-94	32.3	3.12	28.5	113	
U-238	108_5995	03-10-94	32.6	3.14	28.4	115	
U-234	108_5888	03-21-94	5.59	0.58	5.70	98	
U-238	108_5888	03-21-94	6.17	0.62	5.68	109	
Pu-239	108_5908	03-21-94	5.38	0.57	5.54	97	
Th-232	108_5919	03-21-94	11.0	0.92	10.9	102	
Gamma Spec							
Co-60	063_5897	03-16-94	312	13.7	327	95	
Cs-137	063_5897	03-16-94	296	12.7	295	100	



Montgomery Laboratories

Subcontract Lab: LOCKHEED
 Address:

Date: 3-4-94

Phone Number:

PO#: SUB-011

Attention: _____

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 8 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
940304145	BOUGUET SPRING H2O	11-16-93		normal TAT	RADIUM 226 & 228	
940304146	VE004	11-24-93		"	"	
940304147	VE011	"		"	"	
940304148	VE024	"		"	"	
940304149	RT013	2-9-94		"	"	
940304150	RT002	2-10-94		"	"	
940224102	72600	2-23-94		"	STRONTIUM 90, URANIUM, TRITIUM	
940304125	72618	3-1-94		"	STRONTIUM 90, URANIUM, TRITIUM, R0226, RA 226, POTASSIUM-40 & VANADIUM-48	
					BY GAMMA SPECT, PLUTONIUM, THORIUM	

Special comments: _____

Relinquished by: [Signature]

Date: 3-4-94

Received by: [Signature]

Date: 3-11-94

0311352

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client sample ID: 940304125

LAL Sample ID: L1430-11

Date Collected: 01-MAR-94

Date Received: 11-MAR-94

Matrix: Water

Login Number: L1430

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units	
Ra-226	06-APR-94	RA-226 LAL-0073_6208	0.073	MD	0.1	ND	0.18	pci/L
Ra-228	31-MAR-94	RA-228 LAL-0074_6207	1.26	✓	0.41	WD	0.62	pci/L

12243

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940304125

LA: Sample ID: L1430-13

Date Collected: 01-MAR-94

Date Received: 11-MAR-94

Matrix: Water

Login Number: L1430

Constituent	Analyzed	Batch	Activity	Error	MVA	Detector	Units
Sr-90	31-MAR-94	SR-90 LAL-0065_6209	-0.09	0.45	0.78		pCi/L
U-233/4	21-MAR-94	U-ISOTOPIC LAL-0108_5888	0.94	0.39	0.16		pCi/L
U-235	21-MAR-94	U-ISOTOPIC LAL-0108_5888	0.27	0.21	0.14		pCi/L
U-238	21-MAR-94	U-ISOTOPIC LAL-0108_5888	0.46	0.27	0.16		pCi/L

1.67 ✓ 

672#
12243

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, A
 (Project RADIOCHEMISTRY)

Client Sample ID: 940304125 LAL Sample ID: L1430-14
 Date Collected: 01-MAR-94 Date Received: 11-MAR-94
 Matrix: Water Login Number: L1430

Constituent	Analyzed	Batch	Activity	Error	MDA	Data Qual	Units
Th-234	22-MAR-94	GAMMA SPEC LAL-0063_6381	14	28	120		pCi/L
Ra-226(GAMMA)	22-MAR-94	GAMMA SPEC LAL-0063_6381	-136	98	140		pCi/L
Pb-214	22-MAR-94	GAMMA SPEC LAL-0063_6381	3.9	4.8	14		pCi/L
Bi-214	22-MAR-94	GAMMA SPEC LAL-0063_6381	-1.9	5.5	16		pCi/L
Po-214(GAMMA)	22-MAR-94	GAMMA SPEC LAL-0063_6381	-15	12	35		pCi/L
Ac-228	22-MAR-94	GAMMA SPEC LAL-0063_6381	-11.1	5.7	24		pCi/L
Pb-212	22-MAR-94	GAMMA SPEC LAL-0063_6381	4.3	8.8	12		pCi/L
Tl-208	22-MAR-94	GAMMA SPEC LAL-0063_6381	-0.1	6.6	9.2		pCi/L
K-40	22-MAR-94	GAMMA SPEC LAL-0063_6381	36	66	92		pCi/L
Cs-57	22-MAR-94	GAMMA SPEC LAL-0063_6381	0.5	3.1	3.9		pCi/L
Cs-60	22-MAR-94	GAMMA SPEC LAL-0063_6381	-3.34	0.62	6.6		pCi/L
Cs-137	22-MAR-94	GAMMA SPEC LAL-0063_6381	0.4	5.6	7.6		pCi/L
V-48	22-MAR-94	GAMMA SPEC LAL-0063_6381	-6.2	4.1	18		pCi/L
Pu-238	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	-0.053	0.025	0.11		pCi/L
Pu-239/40	21-MAR-94	PU-ISOTOPIC LAL-0108_5908	0.087	0.091	0.091		pCi/L
Th-228	15-MAR-94	TH-ISOTOPIC LAL-0108_6200	0.25	0.32	0.34		pCi/L
Th-230	15-MAR-94	TH-ISOTOPIC LAL-0108_6200	0.2	0.22	0.23		pCi/L
Th-232	15-MAR-94	TH-ISOTOPIC LAL-0108_6200	0.016	0.1	0.21		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940304125
 Date Collected: 01-MAR-94
 Matrix: Water

LAL Sample ID: L1430-15
 Date Received: 11-MAR-94
 Login Number: L1430

Constituent	Analyzed	Batch	Activity	Error	MOA	Dataout	Units
H-3	30-MAR-94	TRITIUM(H3) LAL-0066_6211	-100 MD	120	260		pCi/L

12243

Reagent Blank Analysis

MONTGOMERY L1430

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Ra-226	073 6208	0.13	0.2	04-06-94	0.00	
Ra-228	074 6207	0.89	2.0	03-31-94	0.25	
Sr-90	065 6209	0.73	1.0	03-31-94	0.07	
H-3	066 6211	266	400	03-30-94	31.4	
U-234	108 5888	0.04	0.6	03-21-94	0.11	
U-235	108 5888	0.03	0.6	03-21-94	0.06	
U-238	108 5888	0.03	0.6	03-21-94	0.08	
Pu-239	108 5908	0.05	0.1	03-21-94	0.08	
Th-223	108 6200	0.08	1.0	03-15-94	0.02	
Th-230	108 6200	0.05	1.0	03-15-94	0.09	
Th-232	108 6200	0.05	1.0	03-15-94	0.01	
Gamma Spec						
K-40	063 6318	86.2	100	03-23-94	-4.17	

Duplicate Sample Analysis

MONTGOMERY L1430

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Ra-226	073 6208	940217049	L1430-1	04-06-94	0.05	0.09	0.02	0.04	0.26	92	
Ra-228	074 6207	940217049	L1430-1	03-31-94	0.31	0.39	0.19	0.34	0.16	48	
Sr-90	065 6209	940304125	L1430-12	03-31-94	0.20	0.52	-0.27	0.48	0.47	-1343	
H-3	066 6211	940304125	L1430-15	03-30-94	-99.4	120	-30.9	134	0.27	-105	
U-234	108 5888	EMSL-LV	L1355-1	03-21-94	5.10	0.63	5.55	0.73	0.33	8	
U-235	108 5888	EMSL-LV	L1355-1	03-21-94	0.31	0.14	0.40	0.18	0.26	23	
U-238	108 5888	EMSL-LV	L1355-1	03-21-94	5.02	0.63	5.01	0.69	0.00	0	
Pu-239	108 5908	940224179	L1372-11	03-21-94	0.16	0.11	0.03	0.05	0.87	141	
Th-228	108 6200	TH230	L1319-7	03-15-94	0.08	0.27	0.07	0.26	0.01	10	
Th-230	108 6200	TH230	L1319-7	03-15-94	5.09	1.29	4.23	1.06	0.36	18	
Th-232	108 6200	TH230	L1319-7	03-15-94	0.31	0.26	0.11	0.18	0.44	93	
Gamma Spec											
K-40	063 6318	9240224179	L1372-11	03-23-94	-2.18	26.8	-20.0	26.4	0.33	-161	

Laboratory Control Sample Analysis

MONTGOMERY LI430

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Ra-226	073 6203	04-06-94	5.37	0.61	5.73	94	
Ra-228	074 6207	03-31-94	8.12	0.71	11.1	73	
Sr-90	065 6209	03-31-94	29.1	1.02	26.3	111	
H-3	066 6211	03-30-94	4149	457	4210	99	
U-234	108 5888	03-21-94	5.59	0.58	5.70	98	
U-238	108 5888	03-21-94	6.17	0.62	5.68	109	
Pu-239	108 5908	03-21-94	5.38	0.57	5.54	97	
Th-230	108 6200	03-15-94	3.25	0.58	3.04	107	
Gamma Spec							
Co-60	063 6318	03-23-94	233	13.0	218	107	
Cs-137	063 6318	03-23-94	215	29.1	197	109	

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940404090

LAL Sample ID: L1588-2

Date Collected: 01-APR-94

Date Received: 05-APR-94

Matrix: Water

Login Number: L1588

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	29-APR-94	RA-226 LAL-0073_7277	0.33	0.3	0.44		pCi/L
Ra-228	29-APR-94	RA-228 LAL-0074_7779	0.7	1	1.7		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940404090

LAL Sample ID: L1588-3

Date Collected: 01-APR-94

Date Received: 05-APR-94

Matrix: Water

Login Number: L1588

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Th-234	29-APR-94	GAMMA SPEC LAL-0063_7222	10	330	690		pCi/L
Ra-226(GAMMA)	29-APR-94	GAMMA SPEC LAL-0063_7222	410	660	930		pCi/L
Pb-214	29-APR-94	GAMMA SPEC LAL-0063_7222	-15	64	99		pCi/L
Bi-214	29-APR-94	GAMMA SPEC LAL-0063_7222	-7	80	120		pCi/L
U-235(GAMMA)	29-APR-94	GAMMA SPEC LAL-0063_7222	0	150	220		pCi/L
Ac-228	29-APR-94	GAMMA SPEC LAL-0063_7222	-20	140	250		pCi/L
Pb-212	29-APR-94	GAMMA SPEC LAL-0063_7222	-34	57	84		pCi/L
Tl-208	29-APR-94	GAMMA SPEC LAL-0063_7222	17	45	57		pCi/L
K-40	29-APR-94	GAMMA SPEC LAL-0063_7222	-90	400	670		pCi/L
Co-57	29-APR-94	GAMMA SPEC LAL-0063_7222	-6.8	8.3	25		pCi/L
Co-60	29-APR-94	GAMMA SPEC LAL-0063_7222	15	20	39		pCi/L
Cs-137	29-APR-94	GAMMA SPEC LAL-0063_7222	30	36	37		pCi/L
V-48	29-APR-94	GAMMA SPEC LAL-0063_7222	-54	32	150		pCi/L
Pu-238	25-APR-94	PU-ISOTOPIC LAL-0108_7608	-0.02	0.25	0.47		pCi/L
Pu-239/40	25-APR-94	PU-ISOTOPIC LAL-0108_7608	-0.07	0.15	0.33		pCi/L
Th-228	20-APR-94	TH-ISOTOPIC LAL-0108_7297	0.34	0.81	0.94		pCi/L
Th-232	20-APR-94	TH-ISOTOPIC LAL-0108_7297	1.16	0.74	0.48		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940404090

LAL Sample ID: L1588-4

Date Collected: 01-APR-94

Date Received: 05-APR-94

Matrix: Water

Login Number: L1588

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	22-APR-94	TRITIUM(H3) LAL-0066_7298	40	110	200		pCi/L

Reagent Blank Analysis

MONTGOMERY L1588

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Gamma Spec	063_7222	NO ACTIVITY DETECTED				
Pu-239	108_7608	0.26	0.1	04-25-94	0.00	
Ra-226	073_7277	0.55	1.0	04-29-94	0.28	
Ra-228	074_7278	0.66	2.0	04-21-94	-0.10	
Sr-90	065_7287	0.61	1.0	04-26-94	0.01	
Th-228	108_7297	0.95	1.0	04-20-94	0.87	
Th-232	108_7297	0.52	1.0	04-20-94	1.60	*
H-3	066_7298	203	400	04-22-94	-40.9	
U-234	108_7591	0.34	0.6	04-25-94	2.52	*
U-235	108_7591	0.32	0.6	04-25-94	0.39	
U-238	108_7591	0.35	0.6	04-25-94	1.35	*

PCB
~~1588~~

Subcontract Lab:
Address:

Geochron
214-226-8101

115 East Jackson Street
Fort Worth, Texas
76102

L 1588

Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:

Date: 4-4-94

Phone Number:

Attention: _____

PO#: SUB-025

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 1 sample(s) analysed for the test(s) listed below:

<u>ML Lab Number</u>	<u>Sample ID</u>	<u>Sample Date</u>	<u>Account No.</u>	<u>Results Needed</u>	<u>Analytical Tests</u>	<u>Unit Cost</u>
<u>940404090</u>	<u>74411</u>	<u>4-1-94</u>	_____	<u>NORMAL TAT</u>	<u>STRONTIUM 90, TRITIUM, URANIUM, RADIUM 226, RADIUM 228, POTASSIUM 40 & VANADIUM 48 BY GAMMA SPEC, ISOTOPIC PLUTONIUM, ISOTOPIC THORIUM</u>	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: *JD*

Date: 4-4-94

Received by: *Paul C Davis*

Date: 4-5-94

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940404090

LAL Sample ID: L1588-1

Date Collected: 01-APR-94

Date Received: 05-APR-94

Matrix: Water

Login Number: L1588

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	26-APR-94	SR-90 LAL-0065_7287	0.34	0.8	1.4		pCi/L
U-233/4	25-APR-94	U-ISOTOPIC LAL-0108_7591	4.3	1.4	0.55		pCi/L
U-235	25-APR-94	U-ISOTOPIC LAL-0108_7591	0.89	0.65	0.48		pCi/L
U-238	25-APR-94	U-ISOTOPIC LAL-0108_7591	4.6	1.4	0.53		pCi/L

Duplicate Sample Analysis

MONTGOMERY L1588

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Gamma Spec											
K-40	063_7222	940404090	L1588-3	04-29-94	-86.1	399	-97.3	310	0.02	-12.3	
V-48	063_7222	940404090	L1588-3	04-29-94	-53.8	32.0	-2.88	31.5	0.80	-180	
Pu-239	108_7608	940408024	L1648-5	04-25-94	0.08	0.13	0.13	0.17	0.18	51.4	
Ra-226	073_7277	940304128	L1611-1	04-29-94	0.08	0.09	0.37	0.26	0.83	126	
Ra-228	074_7278	940304128	L1611-1	04-21-94	-9.28	16.40	0.71	12.3	0.35	-233	
Ra-228	074_7779	940304128	L1611-1	04-29-94	1.93	0.91	11.7	2.09	3.26	143	*
Sr-90	065_7287	94-2-MW2-05	L1605-25	04-26-94	0.09	0.35	0.21	0.37	0.17	80.0	
Th-228	108_7297	940404090	L1588-3	04-20-94	0.34	0.81	0.98	0.90	0.38	98.2	
Th-232	108_7297	940404090	L1588-3	04-20-94	1.16	0.74	0.73	0.62	0.32	45.6	
H-3	066_7298	940404090	L1588-4	04-22-94	36.1	114	10.8	109	0.11	108	
U-234	108_7591	940408024	L1648-1	04-25-94	157	11.1	152	11.1	0.24	3.39	
U-235	108_7591	940408024	L1648-1	04-25-94	8.12	1.68	6.26	1.50	0.58	25.9	
U-238	108_7591	940408024	L1648-1	04-25-94	151	10.8	139	10.3	0.61	8.95	

Laboratory Control Sample Analysis

MONTGOMERY L1588

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Gamma Spec							
Co-60	063_7222	04-29-94	206	20.0	218	95	
Cs-137	063_7222	04-29-94	200	24.2	197	102	
Pu-239	108_7608	04-25-94	54.9	2.16	55.4	99	
Ra-226	073_7277	04-29-94	10.2	0.78	11.5	89	
Ra-228	074_7278	04-21-94	12.9	0.67	12.4	104	
Sr-90	065_7287	04-26-94	24.9	0.88	26.3	95	
Th-232	108_7297	04-20-94	55.7	5.25	54.3	103	
H-3	066_7298	04-22-94	4025	375	4195	96	
U-234	108_7591	04-25-94	55.2	5.15	56.3	98	
U-238	108_7591	04-25-94	58.5	5.36	56.1	104	

14336
2000
2000
2000

Montgomery Laboratories

Subcontract Lab: LOCKHEED

Address: _____

Date: 4-11-94

Phone Number: _____

Attention: _____

PO#: SUB-027

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 2 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
<u>940408024</u>	<u>74562</u>	<u>4-6-94</u>	_____	<u>NORMAL TAT</u>	<u>STRONTIUM 90, TRITIUM, URANIUM, RADIUM 226 & 228, POTASSIUM 40 & VANADIUM 42 BY GAMMA SPEC, ISOTOPIC PLUTONIUM, ISOTOPIC THORIUM</u>	_____
<u>940408025</u>	<u>74566</u>	<u>"</u>	_____	<u>"</u>	<u>"</u>	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: [Signature]

Date: 4-18-94

Received by: [Signature]

Date: 4-12-94 0830

FedX 212 2583 845

0412350

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940408024

LAL Sample ID: L1648-1

Date Collected: 06-APR-94

Date Received: 12-APR-94

Matrix: Water

Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	26-APR-94	SR-90 LAL-0065_7287	0.45	0.46	0.77		pCi/L
U-233/4	25-APR-94	U-ISOTOPIC LAL-0108_7591	157	11	0.45		pCi/L
U-235	25-APR-94	U-ISOTOPIC LAL-0108_7591	8.1	1.7	0.29		pCi/L
U-238	25-APR-94	U-ISOTOPIC LAL-0108_7591	151	11	0.42		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940408025
Date Collected: 06-APR-94
Matrix: Water

LAL Sample ID: L1648-4
Date Received: 12-APR-94
Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	29-APR-94	RA-226 LAL-0073_7277	0.24	0.13	0.15		pCi/L
Ra-228	21-APR-94	RA-228 LAL-0074_7278	0.04	0.44	0.76		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940408024

LAL Sample ID: L1648-5

Date Collected: 06-APR-94

Date Received: 12-APR-94

Matrix: Water

Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Th-234	27-APR-94	GAMMA SPEC LAL-0063_7222	71	56	120		pCi/L
Ra-226(GAMMA)	27-APR-94	GAMMA SPEC LAL-0063_7222	80	110	140		pCi/L
Pb-214	27-APR-94	GAMMA SPEC LAL-0063_7222	7.3	9.9	14		pCi/L
Bi-214	27-APR-94	GAMMA SPEC LAL-0063_7222	15	11	15		pCi/L
U-235(GAMMA)	27-APR-94	GAMMA SPEC LAL-0063_7222	14	23	32		pCi/L
Ac-228	27-APR-94	GAMMA SPEC LAL-0063_7222	12	18	25		pCi/L
Pb-212	27-APR-94	GAMMA SPEC LAL-0063_7222	7.7	8.9	12		pCi/L
Tl-208	27-APR-94	GAMMA SPEC LAL-0063_7222	-1.5	7	9.8		pCi/L
K-40	27-APR-94	GAMMA SPEC LAL-0063_7222	38	60	82		pCi/L
Co-57	27-APR-94	GAMMA SPEC LAL-0063_7222	0.8	2.2	3.7		pCi/L
Co-60	27-APR-94	GAMMA SPEC LAL-0063_7222	1.9	3.3	6.1		pCi/L
Cs-137	27-APR-94	GAMMA SPEC LAL-0063_7222	-0.2	5.3	7.5		pCi/L
V-48	27-APR-94	GAMMA SPEC LAL-0063_7222	-1.6	4.3	16		pCi/L
Pu-238	25-APR-94	PU-ISOTOPIC LAL-0108_7608	0.1	0.2	0.35		pCi/L
Pu-239/40	25-APR-94	PU-ISOTOPIC LAL-0108_7608	0.08	0.13	0.23		pCi/L
Th-228	20-APR-94	TH-ISOTOPIC LAL-0108_7297	0.18	0.74	0.9		pCi/L
Th-230	20-APR-94	TH-ISOTOPIC LAL-0108_7297	3.3	1.2	0.5		pCi/L
Th-232	20-APR-94	TH-ISOTOPIC LAL-0108_7297	0.25	0.37	0.45		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940408025
Date Collected: 06-APR-94
Matrix: Water

LAL Sample ID: L1648-2
Date Received: 12-APR-94
Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MOA	DataQual	Units
Sr-90	26-APR-94	SR-90 LAL-0065_7287	0.16	0.44	0.76		pCi/L
U-233/4	25-APR-94	U-ISOTOPIC LAL-0108_7591	65.8	5.8	0.4		pCi/L
U-235	25-APR-94	U-ISOTOPIC LAL-0108_7591	2.63	0.93	0.36		pCi/L
U-238	25-APR-94	U-ISOTOPIC LAL-0108_7591	61.5	5.5	0.35		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940408024
Date Collected: 06-APR-94
Matrix: Water

LAL Sample ID: L1648-3
Date Received: 12-APR-94
Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	29-APR-94	RA-226 LAL-0073_7277	0.6	0.2	0.16		pCi/L
Ra-228	21-APR-94	RA-228 LAL-0074_7278	0.6	0.38	0.61		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940408025

LAL Sample ID: L1648-6

Date Collected: 06-APR-94

Date Received: 12-APR-94

Matrix: Water

Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MOA	DataQual	Units
Th-234	27-APR-94	GAMMA SPEC LAL-0063_7222	54	58	130		pCi/L
Ra-226(GAMMA)	27-APR-94	GAMMA SPEC LAL-0063_7222	50	100	150		pCi/L
Pb-214	27-APR-94	GAMMA SPEC LAL-0063_7222	28	11	14		pCi/L
Bi-214	27-APR-94	GAMMA SPEC LAL-0063_7222	37	14	15		pCi/L
U-235(GAMMA)	27-APR-94	GAMMA SPEC LAL-0063_7222	-3	24	34		pCi/L
Ac-228	27-APR-94	GAMMA SPEC LAL-0063_7222	1	17	34		pCi/L
Pb-212	27-APR-94	GAMMA SPEC LAL-0063_7222	18.8	9.8	12		pCi/L
Tl-208	27-APR-94	GAMMA SPEC LAL-0063_7222	7.4	7	8.5		pCi/L
K-40	27-APR-94	GAMMA SPEC LAL-0063_7222	-35	60	100		pCi/L
Co-57	27-APR-94	GAMMA SPEC LAL-0063_7222	-1.6	1.4	4.2		pCi/L
Co-60	27-APR-94	GAMMA SPEC LAL-0063_7222	-1.4	3.7	8.1		pCi/L
Cs-137	27-APR-94	GAMMA SPEC LAL-0063_7222	-1.3	5.3	7.9		pCi/L
V-48	27-APR-94	GAMMA SPEC LAL-0063_7222	1.5	7.1	17		pCi/L
Pu-238	25-APR-94	PU-ISOTOPIC LAL-0108_7608	-0.11	0.15	0.31		pCi/L
Pu-239/40	25-APR-94	PU-ISOTOPIC LAL-0108_7608	0.04	0.079	0.14		pCi/L
Th-228	25-APR-94	TH-ISOTOPIC LAL-0108_7297	0	1.1	1.5		pCi/L
Th-230	25-APR-94	TH-ISOTOPIC LAL-0108_7297	3.6	1.7	0.8		pCi/L
Th-232	25-APR-94	TH-ISOTOPIC LAL-0108_7297	1.8	1.1	0.63		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940408024
Date Collected: 06-APR-94
Matrix: Water

LAL Sample ID: L1648-7
Date Received: 12-APR-94
Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	22-APR-94	TRITIUM(H3) LAL-0066_7298	-20	100	200		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940408025

LAL Sample ID: L1648-11

Date Collected: 06-APR-94

Date Received: 12-APR-94

Matrix: Water

Login Number: L1648

Constituent	Analyzed	Batch	Activity	Error	MOA	DataQual	Units
H-3	22-APR-94	TRITIUM(H3) LAL-0066_7298	40	110	200		pCi/L

Reagent Blank Analysis

MONTGOMERY L1648

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Gamma Spec	063_7222	NO ACTIVITY DETECTED				
Pu-239	108_7608	0.26	0.1	04-25-94	0.00	
Ra-226	073_7277	0.55	1.0	04-29-94	0.28	
Ra-228	074_7278	0.66	2.0	04-21-94	-0.10	
Sr-90	065_7287	0.61	1.0	04-26-94	0.01	
Th-228	108_7297	0.95	1.0	04-20-94	0.87	
Th-232	108_7297	0.52	1.0	04-20-94	1.60	*
H-3	066_7298	203	400	04-22-94	-40.9	
U-234	108_7591	0.34	0.6	04-25-94	2.52	*
U-235	108_7591	0.32	0.6	04-25-94	0.39	
U-238	108_7591	0.35	0.6	04-25-94	1.35	*

Duplicate Sample Analysis

MONTGOMERY L1648

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Gamma Spec											
K-40	063_7222	940404090	L1588-3	04-29-94	-86.1	399	-97.3	310	0.02	-12.3	
V-48	063_7222	940404090	L1588-3	04-29-94	-53.8	32.0	-2.88	31.5	0.80	-180	
Pu-239	108_7608	940408024	L1648-5	04-25-94	0.08	0.13	0.13	0.17	0.18	51.4	
Ra-226	073_7277	940304128	L1611-1	04-29-94	0.08	0.09	0.37	0.26	0.83	126	
Ra-228	074_7278	940304128	L1611-1	04-21-94	-9.28	16.40	0.71	12.3	0.35	-233	
Ra-228	074_7779	940304128	L1611-1	04-29-94	1.93	0.91	11.7	2.09	3.26	143	*
Sr-90	065_7287	94-2-MW2-05	L1605-25	04-26-94	0.09	0.35	0.21	0.37	0.17	80.0	
Th-228	108_7297	940404090	L1588-3	04-20-94	0.34	0.81	0.98	0.90	0.38	98.2	
Th-232	108_7297	940404090	L1588-3	04-20-94	1.16	0.74	0.73	0.62	0.32	45.6	
H-3	066_7298	940404090	L1588-4	04-22-94	36.1	114	10.8	109	0.11	108	
U-234	108_7591	940408024	L1648-1	04-25-94	157	11.1	152	11.1	0.24	3.39	
U-235	108_7591	940408024	L1648-1	04-25-94	8.12	1.68	6.26	1.50	0.58	25.9	
U-238	108_7591	940408024	L1648-1	04-25-94	151	10.8	139	10.3	0.61	8.95	

Laboratory Control Sample Analysis

MONTGOMERY L1648

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Gamma Spec							
Co-60	063_7222	04-29-94	206	20.0	218	95	
Cs-137	063_7222	04-29-94	200	24.2	197	102	
Pu-239	108_7608	04-25-94	54.9	2.16	55.4	99	
Ra-226	073_7277	04-29-94	10.2	0.78	11.5	89	
Ra-228	074_7278	04-21-94	12.9	0.67	12.4	104	
Sr-90	065_7287	04-26-94	24.9	0.88	26.3	95	
Th-232	108_7297	04-20-94	55.7	5.25	54.3	103	
H-3	066_7298	04-22-94	4025	375	4195	96	
U-234	108_7591	04-25-94	55.2	5.15	56.3	98	
U-238	108_7591	04-25-94	58.5	5.36	56.1	104	

1010000024
-23145
4150 W. Century Blvd
Box 1009
Pasadena, California
91109-1009

Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:

Date: 5-4-94

Phone Number:

Attention: _____

PO#: SUB-042

Please provide results by mail/fax/telephone to BEVERLY GASKINS

Montgomery Laboratories would like the following 2 sample(s) analyzed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
<u>940408020</u>	<u>JW 11674</u>	<u>4-6-94</u>	_____	<u>NORMALTAT</u>	<u>RA 226 & RA 228</u>	_____
<u>940503060</u>	<u>75701</u>	<u>5-2-94</u>	_____	<u>"</u>	<u>STRONTIUM 90, TRITIUM, URANIUM</u> <u>RA 226, RA 228, K-40 & U-235 by</u> <u>GAMMA SPEC, ISOTOPIC PLUTONIUM</u> <u>ISOTOPIC THORIUM.</u>	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: [Signature]

Date: 5-4-94

Received by: [Signature]

Date: 05 May 94 0845

0505350

RAD DATA REPORT (ra01)

Montgomery Laboratories • Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 9405030R0

LAL Sample ID: L1839-2

Date Collected: 02-MAY-94

Date Received: 05-MAY-94

Matrix: Water

Login Number: L1839

CONSTITUENT	ANALYZED	BATCH	ACTIVITY	ERROR	MDA	DATE	UNIT
SR-90	25-MAY-94	SR-90 LAL-0065_8349	0.78	0.49	0.79		pCi/L
U-233/4	27-MAY-94	U-ISOTOPIC LAL-0108_8354	0.67	0.53	0.42		pCi/L
U-239	27-MAY-94	U-ISOTOPIC LAL-0108_8354	1.02	0.61	0.33		pCi/L
U-238	27-MAY-94	U-ISOTOPIC LAL-0108_8354	0.99	0.62	0.38		pCi/L
			<u>2.68</u>				

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940503080

LAL Sample ID: L1839-3

Date Collected: 02-MAY-94

Date Received: 05-MAY-94

Matrix: Water

Login Number: L1839

Constituent	Analyzed	Matrix	Activity	Count	Count Rate	Calculation	Units
H-3	26-MAY-94	TRITIUM(H3)	LAL-0066_8355	1100	230	240	pCi/L

RAD DATA REPORT (rs01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940503080

LAL Sample ID: L1839-6

Date Collected: 02-MAY-94

Date Received: 05-MAY-94

Matrix: Water

Login Number: L1839

Container	Analyzed	Batch	Activity	Error	SD	UNITS
RA-226	23-MAY-94	RA-226 LAL-0073_8347	2.76	0.51	0.18	pCi/L
RA-228	25-MAY-94	RA-228 LAL-0074_8911	0.36 ND	0.44 ND	0.74	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940503080

LAL Sample ID: L1839-5

Date Collected: 02-MAY-94

Date Received: 05-MAY-94

Matrix: Water

Login Number: L1839

Constituent	Analysis	Method	Activity	Error	MDA	Dayhouse	Units
Th-234	11-MAY-94	GAMMA SPEC LAL-0063_8344	-8	61	130		pCi/L
Ra-226(GAMMA)	11-MAY-94	GAMMA SPEC LAL-0063_8344	0	100	150		pCi/L
Pb-214	11-MAY-94	GAMMA SPEC LAL-0063_8344	9	11	16		pCi/L
Bi-214	11-MAY-94	GAMMA SPEC LAL-0063_8344	19	14	17		pCi/L
U-235(GAMMA)	11-MAY-94	GAMMA SPEC LAL-0063_8344	9	25	36		pCi/L
Ac-228	11-MAY-94	GAMMA SPEC LAL-0063_8344	2	20	29		pCi/L
Pb-212	11-MAY-94	GAMMA SPEC LAL-0063_8344	10.9	9.7	13		pCi/L
Tl-208	11-MAY-94	GAMMA SPEC LAL-0063_8344	5	7.3	9.5		pCi/L
K-40	11-MAY-94	GAMMA SPEC LAL-0063_8344	268	99	93		pCi/L
Co-57	11-MAY-94	GAMMA SPEC LAL-0063_8344	0	2.3	3.9		pCi/L
Co-60	11-MAY-94	GAMMA SPEC LAL-0063_8344	1.8	3.9	7.3		pCi/L
Cs-137	11-MAY-94	GAMMA SPEC LAL-0063_8344	1.1	5.5	7.3		pCi/L
V-48	11-MAY-94	GAMMA SPEC LAL-0063_8344	2.9	4.8	10		pCi/L
Pu-238	28-MAY-94	PU-ISOTOPIIC LAL-0108_8357	0.003	0.011	0.023		pCi/L
Pu-239/40	28-MAY-94	PU-ISOTOPIIC LAL-0108_8357	0	0.0087	0.023		pCi/L
Th-228	27-MAY-94	TH-ISOTOPIIC LAL-0108_8358	0.032	0.055	0.094		pCi/L
Th-230	27-MAY-94	TH-ISOTOPIIC LAL-0108_8358	0.064	0.062	0.1		pCi/L
Th-232	27-MAY-94	TH-ISOTOPIIC LAL-0108_8358	0.008	0.025	0.048		pCi/L

Reagent Blank Analysis

MONTGOMERY L1839

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB Result	Data Qualifier
Gamma Spec	063 8344	NO ACTIVITY DETECTED				
Pu-239	108 8357	0.02	0.1	05-28-94	0.01	
Ra-226	073 8347	0.15	1.0	05-23-94	0.08	
Ra-228	074 8911	0.89	2.0	05-25-94	-0.07	
Sr-90	065 8349	0.74	1.0	05-26-94	0.49	
Th-228	108 8358	0.08	1.0	05-28-94	-0.01	
Th-230	108 8358	0.07	1.0	05-28-94	0.04	
Th-232	108 8358	0.05	1.0	05-28-94	0.00	
H-3	066 8355	243	400	05-26-94	-54.6	
C-234	108 8354	0.13	0.6	05-27-94	0.07	
U-235	108 8354	0.07	0.6	05-27-94	0.04	
U-238	108 8354	0.08	0.6	05-27-94	0.05	

Duplicate Sample Analysis

MONTGOMERY L1839

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RHR	RPD	Data Qualifier
Gamma Spec											
K-40	063 8344	940503080	L1839-5	05-11-94	268	99.3	235	95.4	0.17	12.8	
V-48	063 8344	940503080	L1839-5	05-11-94	2.93	4.78	-0.53	2.81	0.46	289	
Pu-239	108 8357	940503080	L1839-5	05-28-94	0.00	0.01	0.01	0.02	0.36	200	
Ra-226	073 8347	940408020	L1839-1	05-23-94	0.07	0.11	0.03	0.06	0.26	82	
Ra-228	074 8911	940408020	L1839-1	05-25-94	0.27	0.41	-0.24	0.87	0.40	3400	
Sr-90	065 8349	940503080	L1839-2	05-26-94	0.78	0.49	0.97	0.49	0.19	22	
Th-228	108 8358	940503080	L1839-5	05-28-94	0.03	0.06	0.03	0.06	0.05	17	
Th-230	108 8358	940503080	L1839-5	05-28-94	0.06	0.06	0.03	0.04	0.33	72	
Th-232	108 8358	940503080	L1839-5	05-28-94	0.01	0.03	0.02	0.02	0.23	77	
H-3	066 8355	940503080	L1839-3	05-26-94	1096	246	1247	261	0.30	13	
U-234	108 8354	940503080	L1839-2	05-27-94	0.67	0.53	0.89	0.60	0.19	27	
U-235	108 8354	940503080	L1839-2	05-27-94	1.02	0.62	0.06	0.18	1.20	177	*
U-238	108 8354	940503080	L1839-2	05-27-94	0.99	0.62	0.06	0.18	1.16	177	*

Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:

Date: 5-12-94

Phone Number:

Attention: _____

PO#: SUB-045

Please provide results by mail/fax/telephone to BEVERLY GASKINS.

Montgomery Laboratories would like the following 2 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
940511060	75914	5-5-94		NORMAL TAT	SR90, U, H3, RA226 & 228, V-48 & K-40 BY GAMMA SPEC, ISOTOPIC PLUTONIUM & THORIUM	
940511061	75915	"		"	"	

Special comments: _____

Relinquished by: [Signature]

Date: _____

Received by: [Signature]

Date: 13 May 94 0837

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940511060

LAL Sample ID: L1918-1

Date Collected: 05-MAY-94

Date Received: 13-MAY-94

Matrix: Water

Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	25-MAY-94	SR-90 LAL-0065_8349	0.08	0.45	0.77		pCi/L
U-233/4	27-MAY-94	U-ISOTOPIC LAL-0108_8354	3.7	1.2	0.44		pCi/L
U-235	27-MAY-94	U-ISOTOPIC LAL-0108_8354	1.03	0.62	0.33		pCi/L
U-238	27-MAY-94	U-ISOTOPIC LAL-0108_8354	2.7	1	0.36		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940511060

LAL Sample ID: L1918-2

Date Collected: 05-MAY-94

Date Received: 13-MAY-94

Matrix: Water

Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	07-JUN-94	RA-226 LAL-0073_8745	0.2	0.18	0.27		pCi/L
Ra-228	17-JUN-94	RA-228 LAL-0074_9375	0	1.2	2		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940511060

LAL Sample ID: L1918-3

Date Collected: 05-MAY-94

Date Received: 13-MAY-94

Matrix: Water

Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	26-MAY-94	TRITIUM(H3) LAL-0066_8355	-70	110	240		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940511060

LAL Sample ID: L1918-5

Date Collected: 05-MAY-94

Date Received: 13-MAY-94

Matrix: Water

Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MCA	DataQual	Units
Th-234	17-MAY-94	GAMMA SPEC LAL-0063_8572	29	40	120		pCi/L
Ra-226(GAMMA)	17-MAY-94	GAMMA SPEC LAL-0063_8572	14	51	70		pCi/L
Pb-214	17-MAY-94	GAMMA SPEC LAL-0063_8572	33.3	6.7	8.2		pCi/L
Bi-214	17-MAY-94	GAMMA SPEC LAL-0063_8572	26.8	7.2	8.2		pCi/L
U-235(GAMMA)	17-MAY-94	GAMMA SPEC LAL-0063_8572	-1	14	20		pCi/L
Ac-228	17-MAY-94	GAMMA SPEC LAL-0063_8572	-3	8.3	15		pCi/L
Pb-212	17-MAY-94	GAMMA SPEC LAL-0063_8572	4.7	5.2	7.1		pCi/L
Tl-208	17-MAY-94	GAMMA SPEC LAL-0063_8572	0.4	2.9	4.2		pCi/L
K-40	17-MAY-94	GAMMA SPEC LAL-0063_8572	2	30	48		pCi/L
Co-57	17-MAY-94	GAMMA SPEC LAL-0063_8572	-0.1	1.4	2.5		pCi/L
Co-60	17-MAY-94	GAMMA SPEC LAL-0063_8572	-0.6	1.2	2.9		pCi/L
Cs-137	17-MAY-94	GAMMA SPEC LAL-0063_8572	-0.3	2	2.8		pCi/L
V-48	17-MAY-94	GAMMA SPEC LAL-0063_8572	-1.06	0.89	4.1		pCi/L
Pu-238	28-MAY-94	PU-ISOTOPIC LAL-0108_8357	-0.006	0.013	0.034		pCi/L
Pu-239/40	28-MAY-94	PU-ISOTOPIC LAL-0108_8357	0	0.015	0.034		pCi/L
Th-228	28-MAY-94	TH-ISOTOPIC LAL-0108_8358	-0.005	0.065	0.12		pCi/L
Th-230	28-MAY-94	TH-ISOTOPIC LAL-0108_8358	0.008	0.031	0.058		pCi/L
Th-232	28-MAY-94	TH-ISOTOPIC LAL-0108_8358	0.016	0.018	0.029		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940511061

LAL Sample ID: L1918-6

Date Collected: 05-MAY-94

Date Received: 13-MAY-94

Matrix: Water

Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	25-MAY-94	SR-90 LAL-0065_8349	0.13	0.54	0.92		pCi/L
U-233/4	27-MAY-94	U-ISOTOPIC LAL-0108_8354	7.6	1.6	0.37		pCi/L
U-235	27-MAY-94	U-ISOTOPIC LAL-0108_8354	0.61	0.47	0.36		pCi/L
U-238	27-MAY-94	U-ISOTOPIC LAL-0108_8354	6.7	1.5	0.36		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940511061

LAL Sample ID: L1918-7

Date Collected: 05-MAY-94

Date Received: 13-MAY-94

Matrix: Water

Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	07-JUN-94	RA-226 LAL-0073_8745	2.36	0.45	0.27		pCi/L
Ra-228	17-JUN-94	RA-228 LAL-0074_9375	-0.7	1	1.9		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940511061
Date Collected: 05-MAY-94
Matrix: Water

LAL Sample ID: L1918-8
Date Received: 13-MAY-94
Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MDA	DataBum	Units
H-3	26-MAY-94	TRITIUM(H3) LAL-0066_8355	-10	120	240		pCi/L

Duplicate Sample Analysis

MONTGOMERY L1918

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Gamma Spec											
K-40	063_8572	RD-33C	L1886-27	05-17-94	15.7	65.9	-22.8	74.3	0.28	-1087	
Pu-239	108_8357	940503080	L1839-5	05-28-94	0.00	0.01	0.01	0.02	0.36	200	
Ra-226	073_8745	SW-2011-051294	L1935-13	06-07-94	0.05	0.13	0.05	0.16	0.02	12	
Ra-228	074_9245	SW-2011-051294	L1935-13	06-03-94	-0.01	0.30	-0.06	0.35	0.08	-143	
Ra-228	074_9375	940506078	L2029-1	06-17-94	1.19	2.43	1.32	2.33	0.03	10	
Sr-90	065_8349	940503080	L1839-2	05-26-94	0.78	0.49	0.97	0.49	0.19	22	
Th-228	108_8358	940503080	L1839-5	05-28-94	0.03	0.06	0.03	0.06	0.05	17	
Th-230	108_8358	940503080	L1839-5	05-28-94	0.06	0.06	0.03	0.04	0.33	72	
Th-232	108_8358	940503080	L1839-5	05-28-94	0.01	0.03	0.02	0.02	0.23	77	
H-3	066_8355	940503080	L1839-3	05-26-94	1096	246	1247	261	0.30	13	
U-234	108_8354	940503080	L1839-2	05-27-94	0.67	0.53	0.89	0.60	0.19	27	
U-235	108_8354	940503080	L1839-2	05-27-94	1.02	0.62	0.06	0.18	1.20	177	*
U-238	108_8354	940503080	L1839-2	05-27-94	0.99	0.62	0.06	0.18	1.16	177	*

Laboratory Control Sample Analysis

MONTGOMERY L1918

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Gamma Spec							
Co-60	063_8572	05-17-94	218	23.2	218	100	
Cs-137	063_8572	05-17-94	199	25.8	197	101	
Pu-239	108_8357	05-28-94	11.1	0.66	11.1	100	
Ra-226	073_8745	06-07-94	5.87	0.74	5.73	102	
Ra-228	074_9245	06-03-94	2.73	0.42	6.10	45	*
Ra-228	074_9375	06-17-94	13.24	1.64	12.1	109	
Sr-90	065_8349	05-26-94	26.9	0.98	26.2	103	
Th-232	108_8358	05-28-94	10.7	0.63	10.9	99	
H-3	066_8355	05-26-94	3919	421	4172	94	
U-234	108_8354	05-27-94	14.4	1.27	14.1	103	
U-235	108_8354	05-27-94	0.72	0.24	0.65	112	
U-238	108_8354	05-27-94	15.3	1.32	14.0	109	

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940511061

LAL Sample ID: L1918-10

Date Collected: 05-MAY-94

Date Received: 13-MAY-94

Matrix: Water

Login Number: L1918

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Th-234	17-MAY-94	GAMMA SPEC LAL-0063_8572	31	40	110		pCi/L
Ra-226(GAMMA)	17-MAY-94	GAMMA SPEC LAL-0063_8572	-29	52	74		pCi/L
Pb-214	17-MAY-94	GAMMA SPEC LAL-0063_8572	87	10	8.4		pCi/L
Bi-214	17-MAY-94	GAMMA SPEC LAL-0063_8572	79	12	8.5		pCi/L
U-235(GAMMA)	17-MAY-94	GAMMA SPEC LAL-0063_8572	-9.4	8.1	22		pCi/L
Ac-228	17-MAY-94	GAMMA SPEC LAL-0063_8572	-1.5	8.3	15		pCi/L
Pb-212	17-MAY-94	GAMMA SPEC LAL-0063_8572	3.3	5.1	7		pCi/L
Tl-208	17-MAY-94	GAMMA SPEC LAL-0063_8572	-1.8	3	4.5		pCi/L
K-40	17-MAY-94	GAMMA SPEC LAL-0063_8572	-17	29	48		pCi/L
Co-57	17-MAY-94	GAMMA SPEC LAL-0063_8572	0.1	1.5	2.5		pCi/L
Co-60	17-MAY-94	GAMMA SPEC LAL-0063_8572	0.2	1.3	3		pCi/L
Cs-137	17-MAY-94	GAMMA SPEC LAL-0063_8572	-1.1	1.9	2.8		pCi/L
V-48	17-MAY-94	GAMMA SPEC LAL-0063_8572	-0.3	2.2	4.6		pCi/L
Pu-238	28-MAY-94	PU-ISOTOPIC LAL-0108_8357	0.0031	0.01	0.023		pCi/L
Pu-239/40	28-MAY-94	PU-ISOTOPIC LAL-0108_8357	-0.0031	0.006	0.023		pCi/L
Th-228	28-MAY-94	TH-ISOTOPIC LAL-0108_8358	0.022	0.056	0.098		pCi/L
Th-230	28-MAY-94	TH-ISOTOPIC LAL-0108_8358	0.024	0.041	0.07		pCi/L
Th-232	28-MAY-94	TH-ISOTOPIC LAL-0108_8358	0.008	0.016	0.029		pCi/L

Reagent Blank Analysis

MONTGOMERY L1918

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Data Qualifier
Gamma Spec	063_8572	NO ACTIVITY DETECTED				
Pu-239	108_8357	0.02	0.1	05-28-94	0.01	
Ra-226	073_8745	0.28	1.0	06-07-94	0.00	
Ra-228	074_9245	0.52	1.0	06-03-94	0.40	
Ra-228	074_9375	1.90	1.0	06-17-94	-0.93	
Sr-90	065_8349	0.74	1.0	05-26-94	0.49	
Th-228	108_8358	0.08	1.0	05-28-94	-0.01	
Th-230	108_8358	0.07	1.0	05-28-94	0.04	
Th-232	108_8358	0.05	1.0	05-28-94	0.00	
H-3	066_8355	243	400	05-26-94	-54.6	
U-234	108_8354	0.13	0.6	05-27-94	0.07	
U-235	108_8354	0.07	0.6	05-27-94	0.04	
U-238	108_8354	0.08	0.6	05-27-94	0.05	

L-2088

Montgomery Laboratories

Subcontract Lab: LOCKHEED
 Address: _____

Date: 6-7-94

Phone Number: _____

Attention: _____

PO#: SUB-069

Please provide results by mail/fax/telephone to BEVERLY GASLINE

Montgomery Laboratories would like the following 2 sample(s) analysed for the test(s) listed below:

<u>ML Lab Number</u>	<u>Sample ID</u>	<u>Sample Date</u>	<u>Account No.</u>	<u>Results Needed</u>	<u>Analytical Tests</u>	<u>Unit Cost</u>
<u>940606077</u>	<u>77135</u>	<u>6-2-94</u>		<u>NORMAL TAT</u>	<u>RA226, 228, SR90, H3, U, U-235</u>	<u>K-40 BY ISOTOPE THORIUM</u>
<u>940606078</u>	<u>77144</u>	<u>6-3-94</u>		<u>"</u>	<u>"</u>	
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: [Signature]

Date: 6-7-94

Received by: Andrew R. Mill

Date: 6-8-94

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940606077

LAL Sample ID: L2088-1

Date Collected: 02-JUN-94

Date Received: 08-JUN-94

Matrix: Water

Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Th-234	14-JUN-94	GAMMA SPEC LAL-0063_9523	67	58	130		pCi/L
Ra-226(GAMMA)	14-JUN-94	GAMMA SPEC LAL-0063_9523	-150	110	150		pCi/L
Pb-214	14-JUN-94	GAMMA SPEC LAL-0063_9523	54	13	16		pCi/L
Bi-214	14-JUN-94	GAMMA SPEC LAL-0063_9523	61	17	16		pCi/L
U-235(GAMMA)	14-JUN-94	GAMMA SPEC LAL-0063_9523	-6	24	36		pCi/L
Ac-228	14-JUN-94	GAMMA SPEC LAL-0063_9523	-9.1	8.2	30		pCi/L
Pb-212	14-JUN-94	GAMMA SPEC LAL-0063_9523	-1.5	9.2	13		pCi/L
Tl-208	14-JUN-94	GAMMA SPEC LAL-0063_9523	1.7	6.8	9		pCi/L
K-40	14-JUN-94	GAMMA SPEC LAL-0063_9523	15	64	90		pCi/L
Co-57	14-JUN-94	GAMMA SPEC LAL-0063_9523	0	3	3.8		pCi/L
Co-60	14-JUN-94	GAMMA SPEC LAL-0063_9523	2.6	3.6	6.1		pCi/L
Cs-137	14-JUN-94	GAMMA SPEC LAL-0063_9523	1.3	5.5	7.2		pCi/L
V-48	14-JUN-94	GAMMA SPEC LAL-0063_9523	0.8	6.2	11		pCi/L
Pb-210	14-JUN-94	GAMMA SPEC LAL-0063_9523	0	110	160		pCi/L
Pu-238	01-JUL-94	PU-ISOTOPIC LAL-0108_9536	-0.006	0.027	0.066		pCi/L
Pu-239/40	01-JUL-94	PU-ISOTOPIC LAL-0108_9536	0.024	0.024	0.017		pCi/L
Th-228	30-JUN-94	TH-ISOTOPIC LAL-0108_9542	0.55	0.15	0.13		pCi/L
Th-230	30-JUN-94	TH-ISOTOPIC LAL-0108_9542	0.39	0.2	0.29		pCi/L
Th-232	30-JUN-94	TH-ISOTOPIC LAL-0108_9542	0.025	0.05	0.091		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940606077

LAL Sample ID: L2088-2

Date Collected: 02-JUN-94

Date Received: 08-JUN-94

Matrix: Water

Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	06-JUL-94	SR-90 LAL-0065_9539	-0.49	0.86	1.5		pCi/L
U-233/4	30-JUN-94	U-ISOTOPIC LAL-0108_10271	10.4	2.6	0.67		pCi/L
U-235	30-JUN-94	U-ISOTOPIC LAL-0108_10271	0.29	0.44	0.55		pCi/L
U-238	30-JUN-94	U-ISOTOPIC LAL-0108_10271	8.6	2.3	0.64		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940606077

LAL Sample ID: L2088-3

Date Collected: 02-JUN-94

Date Received: 08-JUN-94

Matrix: Water

Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MCA	Data Qual	Units
Ra-226	05-JUL-94	RA-226 LAL-0073_10112	0.6	0.32	0.39		pCi/L
Ra-228	01-JUL-94	RA-228 LAL-0074_10110	0.41	0.41	0.66		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940606077

LAL Sample ID: L2088-4

Date Collected: 02-JUN-94

Date Received: 08-JUN-94

Matrix: Water

Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MCA	DataQual	Units
H-3	05-JUL-94	TRITIUM(H3) LAL-0066_9543	-20	130	250		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940606078

LAL Sample ID: L2088-6

Date Collected: 03-JUN-94

Date Received: 08-JUN-94

Matrix: Water

Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MCA	DataQual	Units
Th-234	14-JUN-94	GAMMA SPEC LAL-0063_9523	8	38	100		pCi/L
Ra-226(GAMMA)	14-JUN-94	GAMMA SPEC LAL-0063_9523	-13	47	66		pCi/L
Pb-214	14-JUN-94	GAMMA SPEC LAL-0063_9523	6.5	5.2	8		pCi/L
Bi-214	14-JUN-94	GAMMA SPEC LAL-0063_9523	13.1	6	7.8		pCi/L
U-235(GAMMA)	14-JUN-94	GAMMA SPEC LAL-0063_9523	-3	14	19		pCi/L
Ac-228	14-JUN-94	GAMMA SPEC LAL-0063_9523	4.5	8	14		pCi/L
Pb-212	14-JUN-94	GAMMA SPEC LAL-0063_9523	3.5	4.9	6.8		pCi/L
Tl-208	14-JUN-94	GAMMA SPEC LAL-0063_9523	-1.7	2.9	4.4		pCi/L
K-40	14-JUN-94	GAMMA SPEC LAL-0063_9523	29	29	42		pCi/L
Co-57	14-JUN-94	GAMMA SPEC LAL-0063_9523	-0.3	1.3	2.2		pCi/L
Co-60	14-JUN-94	GAMMA SPEC LAL-0063_9523	-1.76	0.64	3		pCi/L
Cs-137	14-JUN-94	GAMMA SPEC LAL-0063_9523	-0.7	1.9	2.6		pCi/L
V-48	14-JUN-94	GAMMA SPEC LAL-0063_9523	-0.7	1.2	4.2		pCi/L
Pb-210	14-JUN-94	GAMMA SPEC LAL-0063_9523	-100	300	390		pCi/L
Pu-238	01-JUL-94	PU-ISOTOPIC LAL-0108_9536	0.01	0.02	0.038		pCi/L
Pu-239/40	01-JUL-94	PU-ISOTOPIC LAL-0108_9536	0.031	0.029	0.038		pCi/L
Th-228	30-JUN-94	TH-ISOTOPIC LAL-0108_9542	0.069	0.065	0.1		pCi/L
Th-230	30-JUN-94	TH-ISOTOPIC LAL-0108_9542	0.96	0.23	0.28		pCi/L
Th-232	30-JUN-94	TH-ISOTOPIC LAL-0108_9542	0.305	0.096	0.021		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940606078

LAL Sample ID: L2088-7

Date Collected: 03-JUN-94

Date Received: 08-JUN-94

Matrix: Water

Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MDA	DataOut	Units
Sr-90	06-JUL-94	SR-90 LAL-0065_9539	0.65	0.76	1.3		pCi/L
U-233/4	30-JUN-94	U-ISOTOPIC LAL-0108_10271	2	1.3	0.84		pCi/L
U-235	30-JUN-94	U-ISOTOPIC LAL-0108_10271	1.4	1	0.74		pCi/L
U-238	30-JUN-94	U-ISOTOPIC LAL-0108_10271	1.19	0.96	0.74		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940606078
Date Collected: 03-JUN-94
Matrix: Water

LAL Sample ID: L2088-8
Date Received: 08-JUN-94
Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	05-JUL-94	RA-226 LAL-0073_10112	0.24	0.16	0.18		pCi/L
Ra-228	01-JUL-94	RA-228 LAL-0074_10110	0.5	0.35	0.58		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940606078

LAL Sample ID: L2088-9

Date Collected: 03-JUN-94

Date Received: 08-JUN-94

Matrix: Water

Login Number: L2088

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	05-JUL-94	TRITIUM(H3) LAL-0066_9543	10	130	250		pCi/L

Laboratory Control Sample Analysis

MONTGOMERY L2088

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	Percent Recovery	Data Qualifier
Gamma Spec							
Co-60	063_9523	06-15-94	220	23.1	218	101	
Cs-137	063_9523	06-15-94	200	25.9	197	101	
Pu-239	108_9536	07-01-94	18.3	1.11	18.5	99	
Ra-226	073_10112	07-05-94	5.55	0.73	5.73	97	
Ra-228	074_10110	07-01-94	9.08	0.63	12.1	75	
Sr-90	065_9539	07-06-94	33.8	1.75	26.2	129	*
Th-232	108_9542	06-30-94	16.7	0.99	18.1	92	
H-3	066_9543	07-05-94	3550	411	4147	86	
U-234	108_10271	06-30-94	109	10.1	113	97	
U-235	108_10271	06-30-94	7.22	2.23	5.17	140	*
U-238	108_10271	06-30-94	111	10.2	112	99	

Duplicate Sample Analysis

MONTGOMERY L2088

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Data Qualifier
Gamma Spec											
K-40	063_9523	940606077	L2088-1	06-14-94	14.6	63.7	32.9	64.4	0.14	77	
V-48	063_9523	940606077	L2088-1	06-14-94	0.83	6.22	3.04	5.89	0.18	114	
Pu-239	108_9536	940606077	L2088-1	07-01-94	0.02	0.02	-0.01	0.03	0.61	333	
Ra-226	073_10112	W-829-06	L2161-8	07-05-94	0.07	0.22	0.08	0.26	0.02	13	
Ra-228	074_10110	W-829-06	L2161-8	07-01-94	0.20	0.47	0.37	0.55	0.17	60	
Sr-90	065_9539	NOT APPLICABLE									
Th-228	108_9542	940606077	L2088-1	06-30-94	0.55	0.15	0.38	0.44	0.28	35	
Th-230	108_9542	940606077	L2088-1	06-30-94	0.39	0.20	0.29	0.29	0.19	28	
Th-232	108_9542	940606077	L2088-1	06-30-94	0.03	0.05	0.10	0.13	0.39	117	
H-3	066_9543	940606077	L2088-4	07-05-94	-22.9	126	-57.8	124	0.14	-86	
U-234	108_10271	940606078	L2088-7	06-30-94	2.01	1.26	1.92	1.18	0.04	5	
U-235	108_10271	940606078	L2088-7	06-30-94	1.37	1.02	0.58	0.63	0.48	81	
U-238	108_10271	940606078	L2088-7	06-30-94	1.19	0.96	1.79	1.08	0.30	40	

Reagent Blank Analysis

MONTGOMERY L2088

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Data Qualifier
Gamma Spec	063_9523	NO ACTIVITY DETECTED				
Pu-239	108_9536	0.02	1.0	07-01-94	0.03	
Ra-226	073_10112	0.06	1.0	07-05-94	0.04	
Ra-228	074_10110	0.58	1.0	07-01-94	-0.12	
Sr-90	065_9539	1.04	1.0	07-06-94	0.47	
Th-228	108_9542	0.14	1.0	06-30-94	-0.01	
Th-230	108_9542	0.24	1.0	06-30-94	0.48	
Th-232	108_9542	0.07	1.0	06-30-94	0.16	
H-3	066_9543	250	400	07-05-94	271	
U-234	108_10271	0.67	0.6	06-30-94	0.44	
U-235	108_10271	0.55	0.6	06-30-94	0.24	
U-238	108_10271	0.62	0.6	06-30-94	0.48	

12184

Montgomery Laboratories

Subcontract Lab: LUCKHEED
Address:

Date: 6-20-94

Phone Number:

Attention: _____

PO#: SUB-027 - M40

Please provide results by mail/fax/telephone to BEVERLY GASIKINS

Montgomery Laboratories would like the following 4 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
<u>940615113</u>	<u>77599</u>	<u>6-13-94</u>		<u>NORMAL TAT</u>	<u>SR90, U, H3, RA226, RA228, K-40</u>	<u>9U-40 B)</u>
<u>940525675</u>	<u>76808</u>	<u>5-24-94</u>		<u>"</u>	<u>GAMMA SPEC, ISOTOPIC THORIUM & ISOTOPIC PLUT</u>	
<u>940525076</u>	<u>76809</u>	<u>"</u>		<u>"</u>	<u>RA226, RA228</u>	
<u>940520002</u>	<u>76414</u>	<u>5-17-94</u>		<u>"</u>	<u>"</u>	
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_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: [Signature]

Date: 6-20-94

Received by: [Signature]

Date: 6-21-94 / 0840

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940615113

LAL Sample ID: L2184-1

Date Collected: 13-JUN-94

Date Received: 21-JUN-94

Matrix: Water

Login Number: L2184

Constituent	Analyzed	Batch	Activity	Error	MOA	DataQual	Units
H-3	05-JUL-94	TRITIUM(H3) LAL-0066_9543	370	180	250		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940615113

LAL Sample ID: L2184-3

Date Collected: 13-JUN-94

Date Received: 21-JUN-94

Matrix: Water

Login Number: L2184

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Th-234	15-JUL-94	GAMMA SPEC LAL-0063_10508	-4	56	130		pCi/L
Ra-226(GAMMA)	15-JUL-94	GAMMA SPEC LAL-0063_10508	0	100	150		pCi/L
Pb-214	15-JUL-94	GAMMA SPEC LAL-0063_10508	1.2	9.7	15		pCi/L
Bi-214	15-JUL-94	GAMMA SPEC LAL-0063_10508	11	12	15		pCi/L
U-235(GAMMA)	15-JUL-94	GAMMA SPEC LAL-0063_10508	3	23	31		pCi/L
Ac-228	15-JUL-94	GAMMA SPEC LAL-0063_10508	-2	16	27		pCi/L
Pb-212	15-JUL-94	GAMMA SPEC LAL-0063_10508	5	9.1	12		pCi/L
Tl-208	15-JUL-94	GAMMA SPEC LAL-0063_10508	3	6.9	8.8		pCi/L
K-40	15-JUL-94	GAMMA SPEC LAL-0063_10508	48	64	79		pCi/L
Co-57	15-JUL-94	GAMMA SPEC LAL-0063_10508	0.1	2.2	3.8		pCi/L
Co-60	15-JUL-94	GAMMA SPEC LAL-0063_10508	-0.7	3.6	7.8		pCi/L
Cs-137	15-JUL-94	GAMMA SPEC LAL-0063_10508	-1	5.1	7.4		pCi/L
V-48	15-JUL-94	GAMMA SPEC LAL-0063_10508	-4.5	5	17		pCi/L
Pb-210	15-JUL-94	GAMMA SPEC LAL-0063_10508	-10	110	160		pCi/L
Pu-238	19-JUL-94	PU-ISOTOPIC LAL-0108_10548	-0.005	0.017	0.048		pCi/L
Pu-239/40	19-JUL-94	PU-ISOTOPIC LAL-0108_10548	0.057	0.034	0.014		pCi/L
Th-228	19-JUL-94	TH-ISOTOPIC LAL-0108_10587	0.049	0.057	0.094		pCi/L
Th-230	19-JUL-94	TH-ISOTOPIC LAL-0108_10587	0.68	0.12	0.15		pCi/L
Th-232	19-JUL-94	TH-ISOTOPIC LAL-0108_10587	0.164	0.042	0.019		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940615113
Date Collected: 13-JUN-94
Matrix: Water

LAL Sample ID: L2184-4
Date Received: 21-JUN-94
Login Number: L2184

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	05-JUL-94	RA-226 LAL-0073_10112	0.59	0.3	0.35		pCi/L
Ra-228	01-JUL-94	RA-228 LAL-0074_10110	0.49	0.41	0.68		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940615113

LAL Sample ID: L2184-5

Date Collected: 13-JUN-94

Date Received: 21-JUN-94

Matrix: Water

Login Number: L2184

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	08-JUL-94	SR-90 LAL-0065_9539	0	0.75	1.3		pCi/L
U-233/4	19-JUL-94	U-ISOTOPIC LAL-0108_10269	20.2	1.7	0.38		pCi/L
U-235	19-JUL-94	U-ISOTOPIC LAL-0108_10269	2.05	0.46	0.18		pCi/L
U-238	19-JUL-94	U-ISOTOPIC LAL-0108_10269	18	1.6	0.33		pCi/L

Reagent Blank Analysis

MONTGOMERY L2184

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_10508	NO ACTIVITY DETECTED				
Pu-239	108_10548	0.00	1.0	07-19-94	0.02	
Ra-226	073_10112	0.06	1.0	07-05-94	0.04	
Ra-228	074_10110	0.58	1.0	07-01-94	-0.12	
Sr-90	065_9539	1.04	1.0	07-06-94	0.47	
Th-228	108_10587	0.07	1.0	07-19-84	0.02	
Th-230	108_10587	0.10	1.0	07-19-84	0.37	
Th-232	108_10587	0.02	1.0	07-19-84	0.09	
H-3	066_9543	250	400	07-05-94	271	
U-234	108_10269	0.06	0.6	07-19-94	0.16	
U-235	108_10269	0.05	0.6	07-19-94	0.05	
U-238	108_10269	0.05	0.6	07-19-94	0.10	

Duplicate Sample Analysis

MONTGOMERY L2184

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_10508	KD4-SS-R11	L2200-9	07-20-94	-6.37	28.5	-3.41	25.1	0.06	-61	
Pu-239	108_10548	KD4-SS-R11	L2200-9	07-19-94	0.01	0.01	0.01	0.01	0.05	13	
Ra-226	073_10112	W-829-08	L2161-8	07-05-94	0.07	0.22	0.08	0.26	0.02	13	
Ra-228	074_10110	w-829-06	L2161-8	07-01-94	0.20	0.47	0.37	0.55	0.17	60	
Sr-90	065_9539	NOT APPLICABLE									
Th-228	108_10587	KD4-SS-R11	L2200-9	07-19-84	0.00	0.03	-0.01	0.04	0.19	-400	
Th-230	108_10587	KD4-SS-R11	L2200-9	07-19-84	0.06	0.05	0.20	0.06	1.22	109	*
Th-232	108_10587	KD4-SS-R11	L2200-9	07-19-84	0.02	0.01	0.06	0.02	1.30	104	*
H-3	066_9543	940606077	L2088-4	07-05-94	-22.9	126	-57.8	124	0.14	-86	
U-234	108_10269	KQ2-SS-R23	L2177-69	07-19-94	0.35	0.08	0.41	0.09	0.35	16	
U-235	108_10269	KQ2-SS-R23	L2177-69	07-19-94	0.08	0.04	0.13	0.05	0.56	48	
U-238	108_10269	KQ2-SS-R23	L2177-69	07-19-94	0.13	0.05	0.18	0.06	0.37	28	

Laboratory Control Sample Analysis

MONTGOMERY L2184

Analyte	Batch ID	Date	LCS	Error	True	Percent	Q
		Analyzed	Result	2 sigma	Value	Recovery	
Gamma (Co-60)	063_10508	07-15-94	217	26.0	218	99	
Gamma (Cs-137)	063_10508	07-15-94	211	29.5	197	107	
Pu-239	108_10548	07-19-94	5.44	0.18	5.54	98	
Ra-226	073_10112	07-05-94	5.55	0.73	5.73	97	
Ra-228	074_10110	07-01-94	9.08	0.63	12.1	75	
Sr-90	065_9539	07-06-94	33.8	1.75	26.2	129	*
Th-232	108_10587	07-19-84	5.79	0.20	5.43	107	
H-3	066_9543	07-05-94	3550	411	4147	86	
U-234	108_10269	07-19-94	19.0	0.62	18.8	101	
U-235	108_10269	07-19-94	1.19	0.16	0.86	139	*
U-238	108_10269	07-19-94	19.1	0.62	18.7	102	

333 East Walnut Street
P.O. Box 1009
Pasadena, California
91109-1009

Montgomery Laboratories

Subcontract Lab:
Address:



Date: _____

Phone Number: _____

Attention: _____

PO#: SUB-079

Please provide results by mail/fax/telephone to _____

Montgomery Laboratories would like the following _____ sample(s) analysed for the test(s) listed below:

<u>ML Lab Number</u>	<u>Sample ID</u>	<u>Sample Date</u>	<u>Accession No.</u>	<u>Results Needed</u>	<u>Analytical Tests</u>	<u>Unit Cost</u>
940767015	94006039 - M100c	3-31-94		NORMAL TAT	RA226 & RA228	
946787016	94006037 - M100S	"		"	"	
946787010 (10)	78409	6-29-94		"	STRONTIUM 90, URANIUM, TELLURIUM RA226 & 228, V-48 & K-40 BY GAMMA SPEC, ISOTOPIC PLUTONIUM ISOTOPIC THORIUM	

Special comments: _____

Relinquished by: M. DE MESA

Date: 7-7-94

Received by: A. [Signature]

Date: 7-8-94 / 0830

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940701010

LAL Sample ID: L2301-13

Date Collected: 29-JUN-94

Date Received: 08-JUL-94

Matrix: Water

Login Number: L2301

Constituent	Analyzed	Batch	Activity	Error	MDA	Dataout	Units
Sr-90	27-JUL-94	SR-90 LAL-0065_10782	-0.35	0.73	1.3		pCi/L
U-233/4	04-AUG-94	U-ISOTOPIC LAL-0108_11125	2.9	1.4	0.79		pCi/L
U-235	04-AUG-94	U-ISOTOPIC LAL-0108_11125	0.89	0.76	0.6		pCi/L
U-238	04-AUG-94	U-ISOTOPIC LAL-0108_11125	4.7	1.7	0.75		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940701010

LAL Sample ID: L2301-15

Date Collected: 29-JUN-94

Date Received: 08-JUL-94

Matrix: Water

Login Number: L2301

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Re-226	01-AUG-94	RA-226 LAL-0073_10694	1.93	0.42	0.17		pCi/L
Re-228	27-JUL-94	RA-228 LAL-0074_11470	0.45	0.5	0.82		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940701010
 Date Collected: 29-JUN-94
 Matrix: Water

LAL Sample ID: L2301-17
 Date Received: 08-JUL-94
 Login Number: L2301

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Th-234	04-AUG-94	GAMMA SPEC LAL-0063_10674	37	85	190		pCi/L
Ra-226(GAMMA)	04-AUG-94	GAMMA SPEC LAL-0063_10674	0	150	220		pCi/L
Pb-214	04-AUG-94	GAMMA SPEC LAL-0063_10674	-5	15	24		pCi/L
Bi-214	04-AUG-94	GAMMA SPEC LAL-0063_10674	-15	14	27		pCi/L
U-235(GAMMA)	04-AUG-94	GAMMA SPEC LAL-0063_10674	-28	18	55		pCi/L
Ac-228	04-AUG-94	GAMMA SPEC LAL-0063_10674	25	30	41		pCi/L
Pb-212	04-AUG-94	GAMMA SPEC LAL-0063_10674	-3	13	19		pCi/L
Tl-208	04-AUG-94	GAMMA SPEC LAL-0063_10674	-3	11	15		pCi/L
K-40	04-AUG-94	GAMMA SPEC LAL-0063_10674	-31	92	150		pCi/L
Co-57	04-AUG-94	GAMMA SPEC LAL-0063_10674	-3.8	2.1	6.2		pCi/L
Co-60	04-AUG-94	GAMMA SPEC LAL-0063_10674	-1	5.9	13		pCi/L
Cs-137	04-AUG-94	GAMMA SPEC LAL-0063_10674	4.2	8	10		pCi/L
V-48	04-AUG-94	GAMMA SPEC LAL-0063_10674	4	19	39		pCi/L
Pb-210	04-AUG-94	GAMMA SPEC LAL-0063_10674	-20	170	250		pCi/L
Pu-238	06-AUG-94	PU-ISOTOPIC LAL-0108_11451	-0.019	0.041	0.08		pCi/L
Pu-239/40	06-AUG-94	PU-ISOTOPIC LAL-0108_11451	0.068	0.033	0.041		pCi/L
Th-228	04-AUG-94	TH-ISOTOPIC LAL-0108_11096	-0.05	0.26	0.34		pCi/L
Th-230	04-AUG-94	TH-ISOTOPIC LAL-0108_11096	1.53	0.55	0.36		pCi/L
Th-232	04-AUG-94	TH-ISOTOPIC LAL-0108_11096	0.55	0.29	0.15		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940701010
Date Collected: 29-JUN-94
Matrix: Water

LAL Sample ID: L2301-19
Date Received: 08-JUL-94
Login Number: L2301

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	26-JUL-94	TRITIUM(H3) LAL-0066_11117	70	110	190		pCi/L

Reagent Blank Analysis

MONTGOMERY L2309

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_10674	NO ACTIVITY DETECTED				
Pu-239	108_11451	0.04	1.0	08-06-94	0.03	
Ra-226	073_10694	0.30	1.0	08-01-94	-0.07	
Ra-228	074_11470	0.06	1.0	07-27-94	0.06	
Sr-90	065_10782	0.71	1.0	07-27-94	0.25	
H-3	066_11117	194	400	07-26-94	77.2	
Th-228	108_11096	0.09	1.0	08-05-94	0.09	
Th-230	108_11096	0.12	1.0	08-05-94	0.40	
Th-232	108_11096	0.05	1.0	08-05-94	0.11	
U-234	108_11125	0.12	0.6	08-04-94	0.15	
U-235	108_11125	0.11	0.6	08-04-94	0.01	
U-238	108_11125	0.10	0.6	08-04-94	0.05	

Duplicate Sample Analysis

MONTGOMERY L2309

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_10674	ITRI63094-1,2	L2278-3	08-03-94	-0.08	30.0	5.98	29.8	0.10	205	
Pu-239	108_11451	KE3-SS-R21	L2385-1	08-06-94	0.05	0.02	0.03	0.03	0.23	28	
Ra-226	073_10694	940701010	L2301-15	08-01-94	1.93	0.42	2.76	0.52	0.89	36	
Ra-228	074_11470	940701010	L2301-15	07-27-94	0.45	0.50	0.59	0.48	0.14	27	
Sr-90	065_10782	94-3-MW3-05	L2313-11	07-27-94	0.37	0.45	0.38	0.48	0.01	3	
H-3	066_11117	BG8	L2349-1	07-26-94	-3.20	105	-60.2	92.9	0.29	-180	
Th-228	108_11096	KE3-SS-R21	L2385-1	08-05-94	0.18	0.16	0.06	0.10	0.45	99	
Th-230	108_11096	KE3-SS-R21	L2385-1	08-05-94	1.08	0.31	0.39	0.17	1.44	94	*
Th-232	108_11096	KE3-SS-R21	L2385-1	08-05-94	0.22	0.12	0.09	0.07	0.68	84	
U-234	108_11125	B-1-CW11	L2280-88	08-04-94	2.42	0.51	2.96	0.56	0.50	20	
U-235	108_11125	B-1-CW11	L2280-88	08-04-94	0.10	0.11	0.40	0.21	0.95	122	
U-238	108_11125	B-1-CW11	L2280-88	08-04-94	2.53	0.52	2.72	0.54	0.18	7	

Laboratory Control Sample Analysis

MONTGOMERY L2309

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	%R	Q
Gamma (Co-60)	063_10674	08-04-94	223	23.8	218	102	
Gamma (Cs-137)	063_10674	08-04-94	198	10.9	197	101	
Pu-239	108_11451	08-06-94	5.31	0.17	5.54	96	
Ra-226	073_10694	08-01-94	8.96	0.86	12.0	75	
Ra-228	074_11470	07-27-94	10.6	0.73	12.0	88	
Sr-90	065_10782	07-27-94	28.6	1.04	26.1	110	
H-3	066_11117	07-26-94	3697	336	4133	89	
Th-228	108_11096	08-05-94	NOT APPL	CABLE			
Th-230	108_11096	08-05-94	NOT APPL	CABLE			
Th-232	108_11096	08-05-94	5.07	0.37	5.43	93	
U-234	108_11125	08-04-94	18.8	1.68	18.8	100	
U-235	108_11125	08-04-94	1.41	0.46	0.86	163	*
U-238	108_11125	08-04-94	20.4	1.74	18.7	109	

Quality Control
Montgomery Laboratories
199 East...
Pasadena, CA 91106
714 799 7000

72507

Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:

Date: 7-8-94

Phone Number:

Attention: _____

PO#: SUB-081

Please provide results by mail/fax/telephone to BEVERLY GASKINS.

Montgomery Laboratories would like the following 1 sample(s) analysed for the test(s) listed below:

<u>Mil. Lab Number</u>	<u>Sample ID</u>	<u>Sample Date</u>	<u>Account No.</u>	<u>Results Needed</u>	<u>Analytical Tests</u>	<u>Unit Cost</u>
940708039	SJ-78667	7-6-94		NORMAL TAT	SR90, H3, U, RA226 & RA228 V-48 & K-40 BY GAMMA SPEC, ISOTOPIC PLUTONIUM & THORIUM	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Special comments: _____

Relinquished by: [Signature] n-DE USA

Date: 7-9-94

Received by: [Signature]

Date: 7-11-94

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940708039

LAL Sample ID: L2309-1

Date Collected: 06-JUL-94

Date Received: 11-JUL-94

Matrix: Water

Login Number: L2309

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Th-234	03-AUG-94	GAMMA SPEC LAL-0063_10674	113	67	150		pCi/L
Ra-226(GAMMA)	03-AUG-94	GAMMA SPEC LAL-0063_10674	0	110	170		pCi/L
Pb-214	03-AUG-94	GAMMA SPEC LAL-0063_10674	-3	11	17		pCi/L
Bi-214	03-AUG-94	GAMMA SPEC LAL-0063_10674	-2	12	18		pCi/L
U-235(GAMMA)	03-AUG-94	GAMMA SPEC LAL-0063_10674	-3	25	36		pCi/L
Ac-228	03-AUG-94	GAMMA SPEC LAL-0063_10674	7	23	34		pCi/L
Pb-212	03-AUG-94	GAMMA SPEC LAL-0063_10674	-3.4	9.6	14		pCi/L
Tl-208	03-AUG-94	GAMMA SPEC LAL-0063_10674	3.8	7.5	9.9		pCi/L
K-40	03-AUG-94	GAMMA SPEC LAL-0063_10674	4	63	100		pCi/L
Co-57	03-AUG-94	GAMMA SPEC LAL-0063_10674	0.3	3.4	4.3		pCi/L
Co-60	03-AUG-94	GAMMA SPEC LAL-0063_10674	-1	4	8.8		pCi/L
Cs-137	03-AUG-94	GAMMA SPEC LAL-0063_10674	2.1	5.9	7.8		pCi/L
V-48	03-AUG-94	GAMMA SPEC LAL-0063_10674	3.1	7.6	24		pCi/L
Pb-210	03-AUG-94	GAMMA SPEC LAL-0063_10674	-20	120	180		pCi/L
Pu-238	06-AUG-94	PU-ISOTOPIC LAL-0108_11451	-0.069	0.054	0.11		pCi/L
Pu-239/40	06-AUG-94	PU-ISOTOPIC LAL-0108_11451	-0.066	0.058	0.12		pCi/L
Th-228	04-AUG-94	TH-ISOTOPIC LAL-0108_11096	-0.04	0.18	0.25		pCi/L
Th-230	04-AUG-94	TH-ISOTOPIC LAL-0108_11096	0.47	0.33	0.3		pCi/L
Th-232	04-AUG-94	TH-ISOTOPIC LAL-0108_11096	0.38	0.21	0.13		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940708039

LAL Sample ID: L2309-3

Date Collected: 06-JUL-94

Date Received: 11-JUL-94

Matrix: Water

Login Number: L2309

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ra-226	02-AUG-94	RA-226 LAL-0073_11079	0.16	0.17	0.27		pCi/L
Ra-228	28-JUL-94	RA-228 LAL-0074_11491	0.57	0.48	0.79		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940708039

LAL Sample ID: L2309-5

Date Collected: 06-JUL-94

Date Received: 11-JUL-94

Matrix: Water

Login Number: L2309

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	27-JUL-94	SR-90 LAL-0065_10782	1.04	0.85	1.4		pCi/L
U-233/4	04-AUG-94	U-ISOTOPIC LAL-0108_11125	136	12	0.85		pCi/L
U-235	04-AUG-94	U-ISOTOPIC LAL-0108_11125	6.2	2.2	0.72		pCi/L
U-238	04-AUG-94	U-ISOTOPIC LAL-0108_11125	129	12	0.81		pCi/L

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RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940708039

LAL Sample ID: L2309-7

Date Collected: 06-JUL-94

Date Received: 11-JUL-94

Matrix: Water

Login Number: L2309

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	26-JUL-94	TRITIUM(H3) LAL-0066_11117	30	110	190		pCi/L

Reagent Blank Analysis

MONTGOMERY L2309

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_10674	NO ACTIVITY DETECTED				
Pu-239	108_11451	0.04	1.0	08-06-94	0.03	
Ra-226	073_11079	0.25	1.0	08-02-94	0.00	
Ra-228	074_11491	0.79	1.0	07-28-94	0.08	
Sr-90	065_10782	0.71	1.0	07-27-94	0.25	
H-3	066_11117	194	400	07-26-94	77.2	
Th-228	108_11096	0.09	1.0	08-05-94	0.09	
Th-230	108_11096	0.12	1.0	08-05-94	0.40	
Th-232	108_11096	0.05	1.0	08-05-94	0.11	
U-234	108_11125	0.12	0.6	08-04-94	0.15	
U-235	108_11125	0.11	0.6	08-04-94	0.01	
U-238	108_11125	0.10	0.6	08-04-94	0.05	

Duplicate Sample Analysis

MONTGOMERY L2309

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_10674	ITRI63094-1,2	L2278-3	08-03-94	-0.08	30.0	5.98	29.8	0.10	205	
Pu-239	108_11451	KE3-SS-R21	L2385-1	08-06-94	0.05	0.02	0.03	0.03	0.23	28	
Ra-226	073_11079	B-1-CW20	L2326-91	08-02-94	0.18	0.17	0.09	0.17	0.27	67	
Ra-228	074_11491	B-1-CW20	L2326-91	07-28-94	0.42	0.52	0.36	0.50	0.06	15	
Sr-90	065_10782	94-3-MW3-05	L2313-11	07-27-94	0.37	0.45	0.38	0.48	0.01	3	
H-3	066_11117	BG8	L2349-1	07-26-94	-3.20	105	-60.2	92.9	0.29	-180	
Th-228	108_11096	KE3-SS-R21	L2385-1	08-05-94	0.18	0.16	0.06	0.10	0.45	99	
Th-230	108_11096	KE3-SS-R21	L2385-1	08-05-94	1.08	0.31	0.39	0.17	1.44	94	*
Th-232	108_11096	KE3-SS-R21	L2385-1	08-05-94	0.22	0.12	0.09	0.07	0.68	84	
U-234	108_11125	B-1-CW11	L2280-88	08-04-94	2.42	0.51	2.96	0.56	0.50	20	
U-235	108_11125	B-1-CW11	L2280-88	08-04-94	0.10	0.11	0.40	0.21	0.95	122	
U-238	108_11125	B-1-CW11	L2280-88	08-04-94	2.53	0.52	2.72	0.54	0.18	7	

Laboratory Control Sample Analysis

MONTGOMERY L2309

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	%R	Q
Gamma (Co-60)	063_10674	08-04-94	223	23.8	218	102	
Gamma (Cs-137)	063_10674	08-04-94	198	10.9	197	101	
Pu-239	108_11451	08-06-94	5.31	0.17	5.54	96	
Ra-226	073_11079	08-02-94	12.1	0.99	11.5	105	
Ra-228	074_11491	07-28-94	10.6	0.73	12.0	88	
Sr-90	065_10782	07-27-94	28.6	1.04	26.1	110	
H-3	066_11117	07-26-94	3697	336	4133	89	
Th-228	108_11096	08-05-94	NOT APPL	CABLE			
Th-230	108_11096	08-05-94	NOT APPL	CABLE			
Th-232	108_11096	08-05-94	5.07	0.37	5.43	93	
U-234	108_11125	08-04-94	18.8	1.68	18.8	100	
U-235	108_11125	08-04-94	1.41	0.46	0.86	163	*
U-238	108_11125	08-04-94	20.4	1.74	18.7	109	

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940721064

LAL Sample ID: L2456-1

Date Collected: 20-JUL-94

Date Received: 25-JUL-94

Matrix: Water

Login Number: L2456

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	11-AUG-94	SR-90 LAL-0065_10783	0.46	0.63	1.1		pCi/L
U-233/4	24-AUG-94	U-ISOTOPIC LAL-0108_11720	54.1	6.3	0.63		pCi/L
U-235	24-AUG-94	U-ISOTOPIC LAL-0108_11720	3.2	1.4	0.59		pCi/L
U-238	24-AUG-94	U-ISOTOPIC LAL-0108_11720	53.1	6.2	0.76		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940721064

LAL Sample ID: L2456-3

Date Collected: 20-JUL-94

Date Received: 25-JUL-94

Matrix: Water

Login Number: L2456

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	16-AUG-94	GAMMA SPEC LAL-0063_11652	-4.8	9.3	17.		pCi/L
Bi-214	16-AUG-94	GAMMA SPEC LAL-0063_11652	9.5	6.3	8.8		pCi/L
Co-57	16-AUG-94	GAMMA SPEC LAL-0063_11652	0.3	2.2	2.7		pCi/L
Co-60	16-AUG-94	GAMMA SPEC LAL-0063_11652	-0.3	1.5	2.9		pCi/L
Cs-137	16-AUG-94	GAMMA SPEC LAL-0063_11652	-0.4	2.4	3.3		pCi/L
K-40	16-AUG-94	GAMMA SPEC LAL-0063_11652	2.	33.	53.		pCi/L
Pb-210	16-AUG-94	GAMMA SPEC LAL-0063_11652	-190	420	560		pCi/L
Pb-212	16-AUG-94	GAMMA SPEC LAL-0063_11652	0.0	5.1	7.3		pCi/L
Pb-214	16-AUG-94	GAMMA SPEC LAL-0063_11652	2.3	5.7	9.2		pCi/L
Ra-226(GAMMA)	16-AUG-94	GAMMA SPEC LAL-0063_11652	-237.	61.	72.		pCi/L
Th-234	16-AUG-94	GAMMA SPEC LAL-0063_11652	40.	45.	130		pCi/L
Tl-208	16-AUG-94	GAMMA SPEC LAL-0063_11652	0.6	3.4	4.9		pCi/L
U-235(GAMMA)	16-AUG-94	GAMMA SPEC LAL-0063_11652	17.	14.	21.		pCi/L
V-48	16-AUG-94	GAMMA SPEC LAL-0063_11652	2.9	4.6	7.9		pCi/L
Pu-238	06-AUG-94	PU-ISOTOPIC LAL-0108_11451	0.054	0.067	0.11		pCi/L
Pu-239/40	06-AUG-94	PU-ISOTOPIC LAL-0108_11451	0.043	0.038	0.060		pCi/L
Th-228	05-AUG-94	TH-ISOTOPIC LAL-0108_11096	0.02	0.19	0.23		pCi/L
Th-230	05-AUG-94	TH-ISOTOPIC LAL-0108_11096	-0.09	0.22	0.28		pCi/L
Th-232	05-AUG-94	TH-ISOTOPIC LAL-0108_11096	0.088	0.099	0.10		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940721064
Date Collected: 20-JUL-94
Matrix: Water

LAL Sample ID: L2456-5
Date Received: 25-JUL-94
Login Number: L2456

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	22-AUG-94	RA-226 LAL-0073_11708	0.31	0.18	0.21		pCi/L
Radium-228	15-AUG-94	RA-228 LAL-0074_11709	0.39	0.75	1.3		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940721064
Date Collected: 20-JUL-94
Matrix: Water

LAL Sample ID: L2456-7
Date Received: 25-JUL-94
Login Number: L2456

Constituent	Analyzed	Batch	Activity	Error	MOA	DataQual	Units
H-3	09-AUG-94	TRITIUM(H3) LAL-0066_11498	90	140	240		pCi/L

Reagent Blank Analysis

MONTGOMERY L2456

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_11652	NO ACTIVITY DETECTED				
Pu-239/40	108_11451	0.04	1.0	08-06-94	0.03	
Ra-226	073_11708	0.05	1.0	08-22-94	0.08	
Ra-228	074_11709	1.95	1.0	08-15-94	0.34	
Sr-90	065_10783	1.06	1.0	08-11-94	-0.31	
H-3	066_11498	246	400	08-09-94	16.7	
Th-228	108_11096	0.09	1.0	08-05-94	0.09	
Th-230	108_11096	0.12	1.0	08-05-94	0.40	
Th-232	108_11096	0.05	1.0	08-05-94	0.11	
U-234	108_11720	0.05	0.6	08-24-94	0.48	
U-235	108_11720	0.04	0.6	08-24-94	0.14	
U-238	108_11720	0.05	0.6	08-24-94	0.10	

Duplicate Sample Analysis

MONTGOMERY L2456

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Dup Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_11652	207-S03-011	L2481-1	08-17-94	43.5	36.3	61.7	40.0	0.24	35	
Pu-239/40	108_11451	KE3-SS-R21	L2385-1	08-06-94	0.05	0.02	0.03	0.03	0.23	28	
Ra-226	073_11708	940805044	L2595-7	08-22-94	0.85	0.26	0.99	0.28	0.25	14	
Ra-228	074_11709	940805044	L2595-7	08-15-94	0.49	0.84	0.53	0.73	0.03	8	
Sr-90	065_10783	LCS	LCS	08-11-94	29.2	1.25	29.7	1.26	0.2	2	
H-3	066_11498	LX-072-TFD-EW-906	L2439-1	08-09-94	120	149	81.5	139	0.13	38	
Th-228	108_11096	KE3-SS-R21	L2385-1	08-05-94	0.18	0.16	0.06	0.10	0.45	99	
Th-230	108_11096	KE3-SS-R21	L2385-1	08-05-94	1.08	0.31	0.39	0.17	1.44	94	*
Th-232	108_11096	KE3-SS-R21	L2385-1	08-05-94	0.22	0.12	0.09	0.07	0.68	84	
U-234	108_11720	IP\1-Y\QTR\07-19-94\3	L2409-1	08-24-94	6.29	0.90	6.09	0.87	0.11	3	
U-235	108_11720	IP\1-Y\QTR\07-19-94\3	L2409-1	08-24-94	0.57	0.26	0.63	0.28	0.11	10	
U-238	108_11720	IP\1-Y\QTR\07-19-94\3	L2409-1	08-24-94	2.16	0.51	2.44	0.54	0.27	12	

Laboratory Control Sample Analysis

MONTGOMERY L2456

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	%R	Q
Gamma (Co-60)	063_11652	08-16-94	298	26.6	327	91	
Gamma (Cs-137)	063_11652	08-04-94	296	26.6	295	100	
Pu-239/40	108_11451	08-06-94	5.31	0.17	5.54	96	
Ra-226	073_11708	08-22-94	6.46	0.70	5.73	113	
Ra-228	074_11709	08-15-94	13.8	1.04	11.9	116	
Sr-90	065_10783	08-11-94	29.2	1.25	26.1	112	
H-3	066_11498	08-09-94	3888	423	4125	94	
Th-228	108_11096	08-05-94	NOT APPL	CABLE			
Th-230	108_11096	08-05-94	NOT APPL	CABLE			
Th-232	108_11096	08-05-94	5.07	0.37	5.43	93	
U-234	108_11720	08-24-94	5.94	0.55	5.69	104	
U-235	108_11720	08-24-94	NOT APPL	CABLE			
U-238	108_11720	08-24-94	6.13	0.56	5.66	108	

Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:

Date: 6-6-74

Phone Number:

L259

Attention: _____

PO#: SUB-108

Please provide results by mail/fax/telephone to MELISSA HUDSON

Montgomery Laboratories would like the following 2 sample(s) analysed for the test(s) listed below:

MI Lab Number	Sample ID	Sample Date	Account No.	Results needed	Analytical Tests	Unit Cost
940805043	SJ-79958	8-4-74		NORMAL TAT	SR90, U, H3, RA226, 9228, V-48 BY GAMMA SPEC, ISOTOPIC PLUTONIUM THOR.	
940805044	SJ-79959	"		"	"	

Special comments: _____

Relinquished by: [Signature] M. DE MESA

Date: 8-8-74

Received by: [Signature]

Date: 8-9-74 / 10900

FedX 212 2589 281

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940805043

LAL Sample ID: L2595-1

Date Collected: 04-AUG-94

Date Received: 09-AUG-94

Matrix: Water

Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	ND 05-SEP-94	SR-90 LAL-0065_12316	0.16	0.33	0.56		pCi/L
U-233/4	✓ 13-SEP-94	U-ISOTOPIC LAL-0108_12346	3.5	1.1	0.67		pCi/L
U-235	✓ 13-SEP-94	U-ISOTOPIC LAL-0108_12346	1.36	0.71	0.59		pCi/L
U-238	✓ 13-SEP-94	U-ISOTOPIC LAL-0108_12346	2.01	0.86	0.67		pCi/L

$U_{total} = 6.87$

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940805043
Date Collected: 04-AUG-94
Matrix: Water

LAL Sample ID: L2595-2
Date Received: 09-AUG-94
Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	22-AUG-94	RA-226 LAL-0073_11708	0.21	0.15	0.20		pCi/L
Radium-228	15-AUG-94	RA-228 LAL-0074_11709	1.47	0.81	1.3		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940805043

LAL Sample ID: L2595-3

Date Collected: 04-AUG-94

Date Received: 09-AUG-94

Matrix: Water

Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	27-AUG-94	GAMMA SPEC LAL-0063_12295	6.	18.	29.		pCi/L
Bi-214	27-AUG-94	GAMMA SPEC LAL-0063_12295	-10.7	8.9	16.		pCi/L
Co-57	27-AUG-94	GAMMA SPEC LAL-0063_12295	-0.3	2.1	3.6		pCi/L
Co-60	27-AUG-94	GAMMA SPEC LAL-0063_12295	1.4	3.3	7.2		pCi/L
Cs-137	27-AUG-94	GAMMA SPEC LAL-0063_12295	-1.4	4.6	6.7		pCi/L
K-40	27-AUG-94	GAMMA SPEC LAL-0063_12295	22.	60.	83.		pCi/L
Pb-210	27-AUG-94	GAMMA SPEC LAL-0063_12295	-2.	96.	140		pCi/L
Pb-212	27-AUG-94	GAMMA SPEC LAL-0063_12295	-5.4	8.2	12.		pCi/L
Pb-214	27-AUG-94	GAMMA SPEC LAL-0063_12295	-0.8	8.7	13.		pCi/L
Ra-226(GAMMA)	27-AUG-94	GAMMA SPEC LAL-0063_12295	-63.	92.	140		pCi/L
Th-234	27-AUG-94	GAMMA SPEC LAL-0063_12295	-4.	53.	120		pCi/L
Tl-208	27-AUG-94	GAMMA SPEC LAL-0063_12295	0.7	6.0	7.8		pCi/L
U-235(GAMMA)	27-AUG-94	GAMMA SPEC LAL-0063_12295	9.	22.	30.		pCi/L
V-48	27-AUG-94	GAMMA SPEC LAL-0063_12295	3.1	6.7	14.		pCi/L
Pu-238	12-SEP-94	PU-ISOTOPIC LAL-0108_12310	0.013	0.013	0.0088		pCi/L
Pu-239/40	12-SEP-94	PU-ISOTOPIC LAL-0108_12310	0.013	0.020	0.035		pCi/L
Th-228	13-SEP-94	TH-ISOTOPIC LAL-0108_12312	0.042	0.087	0.13		pCi/L
Th-230	13-SEP-94	TH-ISOTOPIC LAL-0108_12312	0.119	0.099	0.13		pCi/L
Th-232	13-SEP-94	TH-ISOTOPIC LAL-0108_12312	0.038	0.036	0.046		pCi/L

9-22-94

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940805043

LAL Sample ID: L2595-4

Date Collected: 04-AUG-94

Date Received: 09-AUG-94

Matrix: Water

Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	17-AUG-94	TRITIUM(H3) LAL-0066_12119	0.000	130	240		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940805044

LAL Sample ID: L2595-6

Date Collected: 04-AUG-94

Date Received: 09-AUG-94

Matrix: Water

Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	✓ 05-SEP-94	SR-90 LAL-0065_12316	0.18	0.37	0.63		pCi/L
U-233/4	✓ 13-SEP-94	U-ISOTOPIC LAL-0108_12346	7.5	1.5	0.78		pCi/L
U-235	✓ 13-SEP-94	U-ISOTOPIC LAL-0108_12346	1.72	0.72	0.47		pCi/L
U-238	✓ 13-SEP-94	U-ISOTOPIC LAL-0108_12346	3.7	1.1	0.62		pCi/L

U_{total} → 12.9

616 9-22-94

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940805044
Date Collected: 04-AUG-94
Matrix: Water

LAL Sample ID: L2595-7
Date Received: 09-AUG-94
Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	22-AUG-94	RA-226 LAL-0073_11708	0.85	0.26	0.18		pCi/L
Radium-228	15-AUG-94	RA-228 LAL-0074_11709	0.49	0.84	1.4		pCi/L

W11
9-22-92

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940805044

LAL Sample ID: L2595-8

Date Collected: 04-AUG-94

Date Received: 09-AUG-94

Matrix: Water

Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	24-AUG-94	GAMMA SPEC LAL-0063_12295	-4.	24.	44.		pCi/L
Bi-214	24-AUG-94	GAMMA SPEC LAL-0063_12295	41.	17.	19.		pCi/L
Co-57	24-AUG-94	GAMMA SPEC LAL-0063_12295	-0.8	2.6	4.5		pCi/L
Co-60	24-AUG-94	GAMMA SPEC LAL-0063_12295	0.6	3.7	7.8		pCi/L
Cs-137	24-AUG-94	GAMMA SPEC LAL-0063_12295	4.2	7.0	9.5		pCi/L
K-40	24-AUG-94	GAMMA SPEC LAL-0063_12295	32.	71.	100		pCi/L
Pb-210	24-AUG-94	GAMMA SPEC LAL-0063_12295	-90	130	200		pCi/L
Pb-212	24-AUG-94	GAMMA SPEC LAL-0063_12295	7.	11.	16.		pCi/L
Pb-214	24-AUG-94	GAMMA SPEC LAL-0063_12295	40.	13.	17.		pCi/L
Ra-226(GAMMA)	24-AUG-94	GAMMA SPEC LAL-0063_12295	-130	120	180		pCi/L
Th-234	24-AUG-94	GAMMA SPEC LAL-0063_12295	-9.	66.	160		pCi/L
Tl-208	24-AUG-94	GAMMA SPEC LAL-0063_12295	5.6	8.7	12.		pCi/L
U-235(GAMMA)	24-AUG-94	GAMMA SPEC LAL-0063_12295	4.	30.	47.		pCi/L
V-48	24-AUG-94	GAMMA SPEC LAL-0063_12295	-3.5	7.3	20.		pCi/L
Pu-238	12-SEP-94	PU-ISOTOPIC LAL-0108_12310	-0.008	0.016	0.045		pCi/L
Pu-239/40	12-SEP-94	PU-ISOTOPIC LAL-0108_12310	-0.004	0.018	0.045		pCi/L
Th-228	13-SEP-94	TH-ISOTOPIC LAL-0108_12312	0.031	0.096	0.15		pCi/L
Th-230	13-SEP-94	TH-ISOTOPIC LAL-0108_12312	0.32	0.14	0.16		pCi/L
Th-232	13-SEP-94	TH-ISOTOPIC LAL-0108_12312	0.056	0.052	0.066		pCi/L

Wim
9-22-94

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940805044

LAL Sample ID: L2595-9

Date Collected: 04-AUG-94

Date Received: 09-AUG-94

Matrix: Water

Login Number: L2595

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	17-AUG-94	TRITIUM(H3) LAL-0066_12119	20	130	250		pCi/L

Reagent Blank Analysis

MONTGOMERY L2595

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_12295	NO ACTIVITY DETECTED				
Pu-239	108_12310	0.03	1.0	09/12/94	0.09	
Ra-226	073_11708	0.05	1.0	08/22/94	0.08	
Ra-228	074_11709	1.95	1.0	08/15/94	0.34	
Sr-90	065_12316	0.50	1.0	09/12/94	-0.07	
H-3	066_12119	244	400	08/17/94	185	
Th-228	108_12312	0.06	1.0	09/13/94	-0.03	
Th-230	108_12312	0.06	1.0	09/13/94	0.03	
Th-232	108_12312	0.02	1.0	09/13/94	0.01	
U-234	108_12346	0.03	0.6	09/13/94	0.23	
U-235	108_12346	0.02	0.6	09/13/94	0.08	
U-238	108_12346	0.02	0.6	09/13/94	0.07	

Duplicate Sample Analysis

MONTGOMERY L2595

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Duplicate Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_12295	KD8-SS-R91	L2529-3	08/24/94	0.07	57.4	31.8	76.9	0.24	199	
Pu-239	108_12310	940805043	L2595-1	09/12/94	0.09	0.03	0.07	0.03	0.38	28	
Ra-226	073_11708	940805044	L2595-7	08/22/94	0.85	0.26	0.99	0.28	0.25	14	
Ra-228	074_11709	940805044	L2595-7	08/15/94	0.49	0.84	0.53	0.73	0.03	8	
Sr-90	065_12316	940803030	L2568-2	09/12/94	0.20	0.32	0.40	0.42	0.27	68	
H-3	066_12119	940803030	L2568-4	08/17/94	-22.8	125	-97.3	110	0.32	-124	
Th-228	108_12312	KD8-SS-R81	L2529-1	09/13/94	0.02	0.06	-0.01	0.04	0.29	933	
Th-230	108_12312	KD8-SS-R81	L2529-1	09/13/94	-0.02	0.05	-0.00	0.05	0.10	-116	
Th-232	108_12312	KD8-SS-R81	L2529-1	09/13/94	0.01	0.01	0.02	0.02	0.46	107	
U-234	108_12346	KE2-SS-R35	L2606-13	09/13/94	0.56	0.16	0.42	0.15	0.47	30	
U-235	108_12346	KE2-SS-R35	L2606-13	09/13/94	0.18	0.10	0.16	0.10	0.12	14	
U-238	108_12346	KE2-SS-R35	L2606-13	09/13/94	0.37	0.13	0.44	0.14	0.25	17	

Laboratory Control Sample Analysis

MONTGOMERY L2595

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	%R	Q
Gamma (Co-60)	063_12295	08/27/94	303	24.9	327	93	
Gamma (Cs-137)	063_12295	08/27/94	298	32.5	295	101	
Pu-239	108_12310	09/12/94	5.02	0.31	5.54	91	
Ra-226	073_11708	08/22/94	6.46	0.70	5.73	113	
Ra-228	074_11709	08/15/94	13.8	1.04	11.9	116	
Sr-90	065_12316	09/12/94	25.8	0.72	28.7	90	
H-3	066_12119	08/17/94	3990	427	4120	97	
Th-228	108_12312	09/13/94	NOT APPL	CABLE			
Th-230	108_12312	09/13/94	NOT APPL	CABLE			
Th-232	108_12312	09/13/94	4.18	0.30	5.20	80	
U-234	108_12346	09/13/94	5.52	0.32	5.69	97	
U-235	108_12346	09/13/94	NOT APPL	CABLE			
U-238	108_12346	09/13/94	6.05	0.33	5.67	107	

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P.O. Box 7009
Pasadena, California
91099-7009

11987

Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:

Date: 8-16-94

Phone Number:

Attention: _____

PO#: SUB - 113

Please provide results by mail/fax telephone to MELISSA HUDSON

Montgomery Laboratories would like the following \$ 5 sample(s) analysed for the test(s) listed below:

<u>ML Lab Number</u>	<u>Sample ID</u>	<u>Sample Date</u>	<u>Account No.</u>	<u>Results Needed</u>	<u>Analytical Tests</u>	<u>Unit Cost</u>
<u>940811065</u>	<u>SJ-80117</u>	<u>8-10-94</u>		<u>NORMAL TAT</u>	<u>SR90, U, H3</u>	
<u>940811066</u>	<u>SJ-80120</u>	<u>"</u>		<u>"</u>	<u>"</u>	
<u>940812053</u>	<u>SJ-80081</u>	<u>8-9-94</u>		<u>"</u>	<u>SR90, U, H3, RA226, RA228, K-40 IV.</u> <u>BY GRANIMA SPEC, ISOTOPIC PLUTONIUM</u> <u>ISOTOPIC THORIUM</u>	
<u>940812054</u>	<u>SJ-80083</u>	<u>8-9-94</u>		<u>"</u>	<u>"</u>	
<u>940811025</u>	<u>CANYON RD WELL</u>	<u>8-10-94</u>		<u>"</u>	<u>RA226, RA228</u>	
<u>940810055</u>	<u>LISA WAY WELL</u>	<u>8-9-94</u>		<u>"</u>	<u>"</u>	

Special comments: _____

Relinquished by: [Signature]

Date: 8-16-94

Received by: [Signature]

Date: 8-17-94 0830

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940812053

LAL Sample ID: L2691-3

Date Collected: 09-AUG-94

Date Received: 17-AUG-94

Matrix: Water

Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	12-SEP-94	RA-226 LAL-0073_12669	3.14	0.53	0.17		pCi/L
Radium-228	07-SEP-94	RA-228 LAL-0074_12671	0.32	0.34	0.56		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940812054
Date Collected: 09-AUG-94
Matrix: Water

LAL Sample ID: L2691-6
Date Received: 17-AUG-94
Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	12-SEP-94	RA-226 LAL-0073_12669	6.41	0.78	0.23		pCi/L
Radium-228	19-SEP-94	RA-228 LAL-0074_13837	1.82	0.53	0.80		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940812054
 Date Collected: 09-AUG-94
 Matrix: Water

LAL Sample ID: L2691-8
 Date Received: 17-AUG-94
 Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	04-SEP-94	GAMMA SPEC LAL-0063_12941	11.	22.	37.		pCi/L
Bi-214	04-SEP-94	GAMMA SPEC LAL-0063_12941	9.	14.	20.		pCi/L
Co-57	04-SEP-94	GAMMA SPEC LAL-0063_12941	0.0	3.4	4.6		pCi/L
Co-60	04-SEP-94	GAMMA SPEC LAL-0063_12941	3.2	3.7	7.5		pCi/L
Cs-137	04-SEP-94	GAMMA SPEC LAL-0063_12941	-1.5	5.6	8.4		pCi/L
K-40	04-SEP-94	GAMMA SPEC LAL-0063_12941	302.	97.	72.		pCi/L
Pb-210	04-SEP-94	GAMMA SPEC LAL-0063_12941	-50	100	160		pCi/L
Pb-212	04-SEP-94	GAMMA SPEC LAL-0063_12941	3.6	9.4	13.		pCi/L
Pb-214	04-SEP-94	GAMMA SPEC LAL-0063_12941	9.	11.	18.		pCi/L
Ra-226(GAMMA)	04-SEP-94	GAMMA SPEC LAL-0063_12941	40	110	170		pCi/L
Th-234	04-SEP-94	GAMMA SPEC LAL-0063_12941	-17.	63.	150		pCi/L
Tl-208	04-SEP-94	GAMMA SPEC LAL-0063_12941	0.4	7.7	11.		pCi/L
U-235(GAMMA)	04-SEP-94	GAMMA SPEC LAL-0063_12941	-10	25.	38.		pCi/L
V-48	04-SEP-94	GAMMA SPEC LAL-0063_12941	-6.1	5.8	24.		pCi/L
Pu-238	27-SEP-94	PU-ISOTOPIIC LAL-0108_13391	0.020	0.044	0.076		pCi/L
Pu-239/40	27-SEP-94	PU-ISOTOPIIC LAL-0108_13391	0.22	0.12	0.076		pCi/L
Th-228	27-SEP-94	TH-ISOTOPIIC LAL-0108_13412	0.36	0.17	0.22		pCi/L
Th-230	27-SEP-94	TH-ISOTOPIIC LAL-0108_13412	1.14	0.22	0.18		pCi/L
Th-232	27-SEP-94	TH-ISOTOPIIC LAL-0108_13412	0.188	0.090	0.091		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 (Project RADIOCHEMISTRY)

Client Sample ID: 940812053

LAL Sample ID: L2691-4

Date Collected: 09-AUG-94

Date Received: 17-AUG-94

Matrix: Water

Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	04-SEP-94	GAMMA SPEC LAL-0063_12941	-3.	12.	23.		pCi/L
Bi-214	04-SEP-94	GAMMA SPEC LAL-0063_12941	6.1	8.1	13.		pCi/L
Co-57	04-SEP-94	GAMMA SPEC LAL-0063_12941	0.5	2.6	3.3		pCi/L
Co-60	04-SEP-94	GAMMA SPEC LAL-0063_12941	0.0	1.5	3.6		pCi/L
Cs-137	04-SEP-94	GAMMA SPEC LAL-0063_12941	-0.4	2.9	4.4		pCi/L
K-40	04-SEP-94	GAMMA SPEC LAL-0063_12941	23.	44.	71.		pCi/L
Pb-210	04-SEP-94	GAMMA SPEC LAL-0063_12941	30	410	550		pCi/L
Pb-212	04-SEP-94	GAMMA SPEC LAL-0063_12941	0.0	6.5	9.9		pCi/L
Pb-214	04-SEP-94	GAMMA SPEC LAL-0063_12941	5.9	6.8	12.		pCi/L
Ra-226 (GAMMA)	04-SEP-94	GAMMA SPEC LAL-0063_12941	4.	66.	97.		pCi/L
Th-234	04-SEP-94	GAMMA SPEC LAL-0063_12941	57.	55.	170		pCi/L
Tl-208	04-SEP-94	GAMMA SPEC LAL-0063_12941	1.6	4.3	6.4		pCi/L
U-235 (GAMMA)	04-SEP-94	GAMMA SPEC LAL-0063_12941	-4.4	4.9	26.		pCi/L
V-48	04-SEP-94	GAMMA SPEC LAL-0063_12941	0.6	3.5	8.4		pCi/L
Pu-238	27-SEP-94	PU-ISOTOPIC LAL-0108_13391	0.00	0.00	0.040		pCi/L
Pu-239/40	27-SEP-94	PU-ISOTOPIC LAL-0108_13391	0.22	0.12	0.073		pCi/L
Th-228	27-SEP-94	TH-ISOTOPIC LAL-0108_13412	0.047	0.085	0.13		pCi/L
Th-230	27-SEP-94	TH-ISOTOPIC LAL-0108_13412	0.73	0.15	0.14		pCi/L
Th-232	27-SEP-94	TH-ISOTOPIC LAL-0108_13412	0.059	0.042	0.051		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940812053
Date Collected: 09-AUG-94
Matrix: Water

LAL Sample ID: L2691-5
Date Received: 17-AUG-94
Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	05-SEP-94	SR-90 LAL-0065_12316	0.05	0.35	0.60		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	19.5	1.3	0.013		ug/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940812054

LAL Sample ID: L2691-7

Date Collected: 09-AUG-94

Date Received: 17-AUG-94

Matrix: Water

Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	05-SEP-94	SR-90 LAL-0065_12316	0.26	0.31	0.52		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	36.2	4.0	0.013		ug/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

(Project RADIOCHEMISTRY)

Client Sample ID: 940812053

LAL Sample ID: L2691-15

Date Collected: 09-AUG-94

Date Received: 17-AUG-94

Matrix: Water

Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	02-SEP-94	TRITIUM(H3) LAL-0066_12708	70	140	260		pCi/L

Duplicate Sample Analysis

MONTGOMERY L2691

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Dup Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_12941	KE2-SS-R81	L2711-1	09/03/94	-36.0	65.9	35.0	59.6	0.57	-15303	
Pu-239/40	108_13391	KE2-SS-RA2	L2735-11	09/27/94	0.13	0.07	0.11	0.06	0.19	21	
Ra-226	073_12669	940812053	L2691-3	09/12/94	3.14	0.53	2.76	0.49	0.37	13	
Ra-228	074_12671	940812053	L2691-3	09/07/94	0.32	0.34	0.24	0.39	0.11	29	
Ra-228	074_13837	INSUFFICIENT SAMPLE									
Sr-90	065_12316	940803030	L2568-2	09/05/94	0.16	0.33	0.40	0.42	0.32	86	
H-3	066_12708	940811065	L2691-11	09/02/94	-21.8	132	-105	118	0.33	-131	
Th-228	108_13412	KE2-SS-RA1	L2735-9	09/27/94	0.04	0.14	0.01	0.05	0.17	123	
Th-230	108_13412	KE2-SS-RA1	L2735-9	09/27/94	1.40	0.31	0.33	0.08	2.72	123	*
Th-232	108_13412	KE2-SS-RA1	L2735-9	09/27/94	0.31	0.13	0.03	0.02	1.88	163	*
Total U	168_14067	940829068	L2833-1	09/27/94	3.60	0.09	3.74	0.10	0.75	4	
Total U	168_14067	940906101	L2937-9	09/27/94	39.1	1.03	38.4	1.07	0.33	2	

Laboratory Control Sample Analysis

MONTGOMERY L2691

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	%R	Q
Gamma (Co-60)	063_12941	09/06/94	211	22.8	218	97	
Gamma (Cs-137)	063_12941	09/06/94	199	25.8	197	101	
Pu-239/40	108_13391	09/27/94	5.29	0.35	5.54	95	
Ra-226	073_12669	09/12/94	5.87	0.68	5.73	103	
Ra-228	074_12671	09/07/94	9.85	1.10	11.8	83	
Ra-228	074_13837	09/08/94	8.98	1.61	11.8	76	
Sr-90	065_12316	09/05/94	25.8	0.72	26.1	99	
H-3	066_12708	09/02/94	3799	428	4110	92	
Th-228	108_13412	09/27/94	NOT APPL	CABLE			
Th-230	108_13412	09/27/94	NOT APPL	CABLE			
Th-232	108_13412	09/27/94	4.82	0.32	5.20	93	
Total U	168_14067	09/27/94	98.5	1.97	102	97	

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
(Project RADIOCHEMISTRY)

Client Sample ID: 940812054
Date Collected: 09-AUG-94
Matrix: Water

LAL Sample ID: L2691-17
Date Received: 17-AUG-94
Login Number: L2691

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	02-SEP-94	TRITIUM(H3) LAL-0066_12708	600	210	260		pCi/L

Reagent Blank Analysis

MONTGOMERY L2691

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_12941	NO ACTIVITY DETECTED				
Pu-239/40	108_13391	0.02	1.0	09/27/94	0.11	
Ra-226	073_12669	0.23	1.0	09/12/94	0.20	
Ra-228	074_12671	1.02	1.0	09/07/94	0.28	
Ra-228	074_13837	0.71	1.0	09/08/94	0.14	
Sr-90	065_12316	0.50	1.0	09/05/94	-0.07	
H-3	066_12708	254	400	09/02/94	103	
Th-228	108_13412	0.07	1.0	09/27/94	0.02	
Th-230	108_13412	0.07	1.0	09/27/94	0.29	
Th-232	108_13412	0.02	1.0	09/27/94	0.02	
Total U	168_14067	0.10	0.1	09/27/94	0.00	

455 East Walnut Street
P.O. Box 7009
Pasadena, California
91109-7009

L 2937

Montgomery Laboratories

Subcontract Lab: LOCKHEED
Address:



Date: 9-14-94

Phone Number:

Attention: _____

PO#: SUB-134

Please provide results by mail/fax/telephone to MELISSA HUDSON.

Montgomery Laboratories would like the following 7 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
940902023	SJ-81153	9-2-94		OCT. 13 1994	RA226, 228, H3, SREO, U, V-48 & BY GAMMA SPEC ISOTOPIC PLUTONIUM 5 THE	
940906101	SJ-81198	"		"	"	
940908195	SJ-81296	9-7-94		"	"	
940908196	SJ-81297	"		"	"	
940908197	SJ-81239	9-6-94		"	"	
940914039	SJ-81515	9-13-94		"	"	
940914040	SJ-81516	"		"	"	

Special comments: * SAMPLES ARE IN 3 BIG COOLERS.

Relinquished by: [Signature]

Date: 9-14-94

Received by: [Signature]

Date: 9-14-94/0830

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940902023

LAL Sample ID: L2937-1

Date Collected: 02-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	1.10	0.34	0.24		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	0.35	0.37	0.62		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940906101
Date Collected: 02-SEP-94
Matrix: Water

LAL Sample ID: L2937-2
Date Received: 15-SEP-94
Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	0.56	0.31	0.37		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	0.32	0.45	0.76		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908195

LAL Sample ID: L2937-3

Date Collected: 07-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	0.60	0.29	0.31		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	0.86	0.46	0.72		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908196

LAL Sample ID: L2937-4

Date Collected: 07-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MOA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	0.41	0.22	0.24		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	0.27	0.39	0.66		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908197

LAL Sample ID: L2937-5

Date Collected: 06-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	0.75	0.29	0.28		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	1.11	0.38	0.57		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914039

LAL Sample ID: L2937-6

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	2.81	0.56	0.30		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	0.17	0.48	0.82		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914040

LAL Sample ID: L2937-7

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MVA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	0.17	0.17	0.25		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	0.14	0.36	0.62		pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940902023

LAL Sample ID: L2937-8

Date Collected: 02-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	02-OCT-94	SR-90 LAL-0065_13777	0.88	0.61	1.0		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	0.426	0.031	0.013		ug/L

enter 10-25-94
Wim

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940906101

LAL Sample ID: L2937-9

Date Collected: 02-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MCA	DataQual	Units
Sr-90 Uranium	03-OCT-94	SR-90 LAL-0065_13777	-0.07	0.60	1.0		pCi/L
	27-SEP-94	U TOTAL KPA LAL-0168_14067	39.1	2.2	0.013		ug/L
			<i>39.1</i>	<i>2.2</i>			<i>pCi/L</i>
			<i>0.68</i>	<i>0.68</i>			
			<i>↓</i>	<i>↓</i>			
			<i>57.5</i>	<i>3.2</i>			<i>pCi/L</i>

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908195

LAL Sample ID: L2937-10

Date Collected: 07-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	02-OCT-94	SR-90 LAL-0065_13777	-1.9	3.0	5.4		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	13.60	0.75	0.013		ug/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908196

LAL Sample ID: L2937-11

Date Collected: 07-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MVA	Data Qual	Units
Sr-90	02-OCT-94	SR-90 LAL-0065_13777	0.27	0.86	1.5		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	21.1	1.2	0.013		ug/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908197

LAL Sample ID: L2937-12

Date Collected: 06-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	Data/MDA	Units
Sr-90	02-OCT-94	SR-90 LAL-0065_13777	1.1	7.0	12.		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	393.	21.	0.013		ug/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914039

LAL Sample ID: L2937-13

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	02-OCT-94	SR-90 LAL-0065_13777	0.39	0.72	1.2		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	13.73	0.94	0.013		ug/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914040

LAL Sample ID: L2937-14

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	02-OCT-94	SR-90 LAL-0065_13777	0.02	0.65	1.1		pCi/L
Uranium	27-SEP-94	U TOTAL KPA LAL-0168_14067	128.7	7.0	0.013		ug/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940902023

LAL Sample ID: L2937-15

Date Collected: 02-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	28-SEP-94	GAMMA SPEC LAL-0063_14007	12.	21.	34.		pCi/L
Bi-214	28-SEP-94	GAMMA SPEC LAL-0063_14007	10.	13.	19.		pCi/L
Co-57	28-SEP-94	GAMMA SPEC LAL-0063_14007	-3.1	2.5	4.7		pCi/L
Co-60	28-SEP-94	GAMMA SPEC LAL-0063_14007	5.1	4.2	7.0		pCi/L
Cs-137	28-SEP-94	GAMMA SPEC LAL-0063_14007	1.0	5.6	8.2		pCi/L
K-40	28-SEP-94	GAMMA SPEC LAL-0063_14007	40.	81.	120		pCi/L
Pb-210	28-SEP-94	GAMMA SPEC LAL-0063_14007	50	110	160		pCi/L
Pb-212	28-SEP-94	GAMMA SPEC LAL-0063_14007	2.5	9.4	14.		pCi/L
Pb-214	28-SEP-94	GAMMA SPEC LAL-0063_14007	6.	11.	16.		pCi/L
Ra-226(GAMMA)	28-SEP-94	GAMMA SPEC LAL-0063_14007	0.000	110	180		pCi/L
Th-234	28-SEP-94	GAMMA SPEC LAL-0063_14007	30.	64.	140		pCi/L
Tl-208	28-SEP-94	GAMMA SPEC LAL-0063_14007	-5.2	3.9	12.		pCi/L
U-235(GAMMA)	28-SEP-94	GAMMA SPEC LAL-0063_14007	-12.	28.	45.		pCi/L
V-48	28-SEP-94	GAMMA SPEC LAL-0063_14007	-7.9	8.3	31.		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIIC LAL-0108_14124	-0.029	0.033	0.24		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIIC LAL-0108_14124	-0.01	0.019	0.20		pCi/L
Th-228	11-OCT-94	TH-ISOTOPIIC LAL-0108_14097	-0.48	0.54	0.96	Y	pCi/L
Th-230	11-OCT-94	TH-ISOTOPIIC LAL-0108_14097	0.95	0.68	0.35	Y	pCi/L
Th-232	11-OCT-94	TH-ISOTOPIIC LAL-0108_14097	0.90	0.40	0.22	Y	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940906101

LAL Sample ID: L2937-16

Date Collected: 02-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	Database	Units
Ac-228	30-SEP-94	GAMMA SPEC LAL-0063_14007	1.9	8.8	16.		pCi/L
Bi-214	30-SEP-94	GAMMA SPEC LAL-0063_14007	4.6	6.3	9.9		pCi/L
Co-57	30-SEP-94	GAMMA SPEC LAL-0063_14007	-0.9	1.6	2.9		pCi/L
Co-60	30-SEP-94	GAMMA SPEC LAL-0063_14007	0.0	1.3	3.2		pCi/L
Cs-137	30-SEP-94	GAMMA SPEC LAL-0063_14007	0.1	2.2	3.3		pCi/L
K-40	30-SEP-94	GAMMA SPEC LAL-0063_14007	-13.	33.	58.		pCi/L
Pb-210	30-SEP-94	GAMMA SPEC LAL-0063_14007	180	260	320		pCi/L
Pb-212	30-SEP-94	GAMMA SPEC LAL-0063_14007	1.2	5.5	8.3		pCi/L
Pb-214	30-SEP-94	GAMMA SPEC LAL-0063_14007	5.0	5.5	9.0		pCi/L
Ra-226(GAMMA)	30-SEP-94	GAMMA SPEC LAL-0063_14007	-74.	57.	80.		pCi/L
Th-234	30-SEP-94	GAMMA SPEC LAL-0063_14007	22.	44.	130		pCi/L
Tl-208	30-SEP-94	GAMMA SPEC LAL-0063_14007	0.0	3.4	5.1		pCi/L
U-235(GAMMA)	30-SEP-94	GAMMA SPEC LAL-0063_14007	2.	16.	23.		pCi/L
V-48	30-SEP-94	GAMMA SPEC LAL-0063_14007	0.3	3.4	6.2		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.023	0.026	0.19		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	0.27	0.22	0.12		pCi/L
Th-228	11-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.12	0.47	0.71	Y	pCi/L
Th-230	11-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.11	0.49	0.21	Y	pCi/L
Th-232	11-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.39	0.24	0.17	Y	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908195

LAL Sample ID: L2937-17

Date Collected: 07-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	Databank	Units
Ac-228	29-SEP-94	GAMMA SPEC LAL-0063_14007	7.	20.	35.		pCi/L
Bi-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.00	13.	21.		pCi/L
Co-57	29-SEP-94	GAMMA SPEC LAL-0063_14007	-1.2	2.6	4.7		pCi/L
Co-60	29-SEP-94	GAMMA SPEC LAL-0063_14007	1.6	4.4	9.5		pCi/L
Cs-137	29-SEP-94	GAMMA SPEC LAL-0063_14007	2.3	6.3	9.1		pCi/L
K-40	29-SEP-94	GAMMA SPEC LAL-0063_14007	35.	69.	100		pCi/L
Pb-210	29-SEP-94	GAMMA SPEC LAL-0063_14007	-30	100	160		pCi/L
Pb-212	29-SEP-94	GAMMA SPEC LAL-0063_14007	3.	10.	15.		pCi/L
Pb-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.00	11.	19.		pCi/L
Ra-226(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	60	110	170		pCi/L
Th-234	29-SEP-94	GAMMA SPEC LAL-0063_14007	51.	64.	150		pCi/L
Tl-208	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.0	7.4	11.		pCi/L
U-235(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	-12.	28.	44.		pCi/L
V-48	29-SEP-94	GAMMA SPEC LAL-0063_14007	4.1	7.7	18.		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	0.00	0.00	0.18		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	0.04	0.13	0.25		pCi/L
Th-228	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	1.03	0.39	0.42		pCi/L
Th-230	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.41	0.39	0.16		pCi/L
Th-232	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.47	0.20	0.16		pCi/L

RAD DATA REPORT (ra01)
 Montgomery Laboratories * Pasadena, CA
 Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908196
 Date Collected: 07-SEP-94
 Matrix: Water

LAL Sample ID: L2937-18
 Date Received: 15-SEP-94
 Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	Detected	Units
Ac-228	29-SEP-94	GAMMA SPEC LAL-0063_14007	-6.	11.	37.		pCi/L
Bi-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	12.	14.	21.		pCi/L
Co-57	29-SEP-94	GAMMA SPEC LAL-0063_14007	-1.6	2.6	4.7		pCi/L
Co-60	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.7	3.9	7.9		pCi/L
Cs-137	29-SEP-94	GAMMA SPEC LAL-0063_14007	4.8	6.8	9.3		pCi/L
K-40	29-SEP-94	GAMMA SPEC LAL-0063_14007	35.	72.	100		pCi/L
Pb-210	29-SEP-94	GAMMA SPEC LAL-0063_14007	-41.	98.	160		pCi/L
Pb-212	29-SEP-94	GAMMA SPEC LAL-0063_14007	8.	10.	15.		pCi/L
Pb-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.00	11.	19.		pCi/L
Ra-226(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	-50	110	180		pCi/L
Th-234	29-SEP-94	GAMMA SPEC LAL-0063_14007	-8.	63.	150		pCi/L
Tl-208	29-SEP-94	GAMMA SPEC LAL-0063_14007	1.	7.5	11.		pCi/L
U-235(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	-12.	27.	44.		pCi/L
V-48	29-SEP-94	GAMMA SPEC LAL-0063_14007	-3.2	5.8	18.		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.032	0.044	0.36		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.016	0.031	0.33		pCi/L
Th-228	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.46	0.27	0.34	F	pCi/L
Th-230	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	-0.62	0.22	0.095	F	pCi/L
Th-232	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.103	0.084	0.095	F	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908197

LAL Sample ID: L2937-19

Date Collected: 06-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	01-OCT-94	GAMMA SPEC LAL-0063_14007	-3.9	9.0	18.		pCi/L
Bi-214	01-OCT-94	GAMMA SPEC LAL-0063_14007	8.0	6.5	9.8		pCi/L
Co-57	01-OCT-94	GAMMA SPEC LAL-0063_14007	-0.6	1.6	2.8		pCi/L
Co-60	01-OCT-94	GAMMA SPEC LAL-0063_14007	-0.3	1.3	3.4		pCi/L
Cs-137	01-OCT-94	GAMMA SPEC LAL-0063_14007	-0.2	2.3	3.5		pCi/L
K-40	01-OCT-94	GAMMA SPEC LAL-0063_14007	10.	33.	55.		pCi/L
Pb-210	01-OCT-94	GAMMA SPEC LAL-0063_14007	170	270	330		pCi/L
Pb-212	01-OCT-94	GAMMA SPEC LAL-0063_14007	5.6	5.7	8.2		pCi/L
Pb-214	01-OCT-94	GAMMA SPEC LAL-0063_14007	5.2	5.9	9.4		pCi/L
Ra-226(GAMMA)	01-OCT-94	GAMMA SPEC LAL-0063_14007	73.	63.	80.		pCi/L
Th-234	01-OCT-94	GAMMA SPEC LAL-0063_14007	85.	47.	130		pCi/L
Tl-208	01-OCT-94	GAMMA SPEC LAL-0063_14007	2.5	3.3	4.7		pCi/L
U-235(GAMMA)	01-OCT-94	GAMMA SPEC LAL-0063_14007	6.	16.	24.		pCi/L
V-48	01-OCT-94	GAMMA SPEC LAL-0063_14007	-1.1	2.1	8.4		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	0.02	0.20	0.42		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.032	0.044	0.36		pCi/L
Th-228	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.40	0.99	1.5	Y	pCi/L
Th-230	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	1.80	0.91	0.40	Y	pCi/L
Th-232	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	1.20	0.57	0.44	Y	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940902023

LAL Sample ID: L2937-22

Date Collected: 02-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	-130	110	260		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940906101

LAL Sample ID: L2937-24

Date Collected: 02-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	280	170	250		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914039

LAL Sample ID: L2937-20

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	28-SEP-94	GAMMA SPEC LAL-0063_14007	-17.	12.	41.		pCi/L
Bi-214	28-SEP-94	GAMMA SPEC LAL-0063_14007	12.	15.	23.		pCi/L
Co-57	28-SEP-94	GAMMA SPEC LAL-0063_14007	-0.4	2.8	4.8		pCi/L
Co-60	28-SEP-94	GAMMA SPEC LAL-0063_14007	-0.9	3.7	8.3		pCi/L
Cs-137	28-SEP-94	GAMMA SPEC LAL-0063_14007	3.3	6.1	8.0		pCi/L
K-40	28-SEP-94	GAMMA SPEC LAL-0063_14007	40.	73.	110		pCi/L
Pb-210	28-SEP-94	GAMMA SPEC LAL-0063_14007	0.000	110	180		pCi/L
Pb-212	28-SEP-94	GAMMA SPEC LAL-0063_14007	0.00	10.	15.		pCi/L
Pb-214	28-SEP-94	GAMMA SPEC LAL-0063_14007	14.	12.	18.		pCi/L
Ra-226(GAMMA)	28-SEP-94	GAMMA SPEC LAL-0063_14007	-140	120	170		pCi/L
Th-234	28-SEP-94	GAMMA SPEC LAL-0063_14007	-71.	64.	160		pCi/L
Tl-208	28-SEP-94	GAMMA SPEC LAL-0063_14007	-3.1	8.1	12.		pCi/L
U-235(GAMMA)	28-SEP-94	GAMMA SPEC LAL-0063_14007	7.	28.	42.		pCi/L
V-48	28-SEP-94	GAMMA SPEC LAL-0063_14007	0.5	6.5	14.		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.051	0.050	0.32		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.038	0.043	0.31		pCi/L
Th-228	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	-0.76	0.84	1.5	Y	pCi/L
Th-230	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	2.1	1.0	0.47	Y	pCi/L
Th-232	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.88	0.58	0.62	Y	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914040

LAL Sample ID: L2937-21

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	Detected	Units
Ac-228	29-SEP-94	GAMMA SPEC LAL-0063_14007	6.	22.	35.		pCi/L
Bi-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	31.	17.	21.		pCi/L
Co-57	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.0	2.8	4.9		pCi/L
Co-60	29-SEP-94	GAMMA SPEC LAL-0063_14007	-0.2	3.7	7.5		pCi/L
Cs-137	29-SEP-94	GAMMA SPEC LAL-0063_14007	-4.4	2.9	9.8		pCi/L
K-40	29-SEP-94	GAMMA SPEC LAL-0063_14007	56.	78.	110		pCi/L
Pb-210	29-SEP-94	GAMMA SPEC LAL-0063_14007	10	110	160		pCi/L
Pb-212	29-SEP-94	GAMMA SPEC LAL-0063_14007	4.	10.	15.		pCi/L
Pb-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	38.	14.	17.		pCi/L
Ra-226(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	70	120	180		pCi/L
Th-234	29-SEP-94	GAMMA SPEC LAL-0063_14007	5.	63.	150		pCi/L
Tl-208	29-SEP-94	GAMMA SPEC LAL-0063_14007	3.4	8.3	11.		pCi/L
U-235(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	-6.	28.	44.		pCi/L
V-48	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.2	7.5	17.		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	0.01	0.13	0.28		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.042	0.042	0.27		pCi/L
Th-228	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	-0.3	2.0	3.3	Y	pCi/L
Th-230	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	4.9	2.4	2.0	Y	pCi/L
Th-232	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	1.5	1.4	1.9	Y	pCi/L

RAD DATA REPORT (ra01)
Montgomery Laboratories * Pasadena, CA
Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908195

LAL Sample ID: L2937-26

Date Collected: 07-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	40	140	260		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908196

LAL Sample ID: L2937-28

Date Collected: 07-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MCA	DataQual	Units
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	-90	120	270		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940908197

LAL Sample ID: L2937-30

Date Collected: 06-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	Data/Qual	UNITS
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	50	140	260		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914039

LAL Sample ID: L2937-32

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	10	140	260		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940914040

LAL Sample ID: L2937-34

Date Collected: 13-SEP-94

Date Received: 15-SEP-94

Matrix: Water

Login Number: L2937

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	20	140	260		pCi/L

Reagent Blank Analysis

MONTGOMERY L2937

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_14007	NO ACTIVITY DETECTED				
Pu-239/40	108_14124	0.24	1.0	10/18/94	0.06	
Ra-226	073_13898	0.27	1.0	10/16/94	0.00	
Ra-228	074_13897	1.57	1.0	10/11/94	2.71	*
Sr-90	065_13777	1.06	1.0	10/02/94	0.43	
H3	066_14144	257	300	10/13/94	70.8	
Th-228	108_14097	1.07	1.0	10/11/94	0.25	
Th-230	108_14097	0.42	1.0	10/11/94	0.00	
Th-232	108_14097	0.38	1.0	10/11/94	0.09	
Total U	168_14067	0.10	0.1	09/27/94	0.00	

Duplicate Sample Analysis

MONTGOMERY L2937

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Dup Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_14007	KP8-SS-R11	L2939-43	09/29/94	-30.9	67.7	29.2	60.8	0.47	-7085	
Pu-239/40	108_14124	940902023	L2937-15	10/18/94	-0.01	0.02	0.00	0.00	0.53	-200	
Ra-226	073_13898	940902023	L2937-1	10/16/94	1.10	0.34	0.85	0.30	0.39	26	
Ra-228	074_13897	940902023	L2937-1	10/11/94	3.35	1.15	2.68	0.61	0.38	22	
Sr-90	065_13777	940908002	L2891-2	10/02/94	0.13	0.57	1.33	0.67	0.97	164	
H3	066_14144	940912054	L2930-3	10/13/94	-11.1	134	96.8	153	0.38	252	
Th-228	108_14097	940908197	L2937-19	10/11/94	0.40	0.99	-0.31	0.48	0.48	1587	
Th-230	108_14097	940908197	L2937-19	10/11/94	1.80	0.91	0.31	0.57	1.01	141	*
Th-232	108_14097	940908197	L2937-19	10/11/94	1.20	0.57	0.31	0.27	1.07	118	*
Total U	168_14067	940829068	L2833-1	09/27/94	3.60	0.09	3.74	0.10	0.75	4	
Total U	168_14067	940906101	L2937-9	09/27/94	39.1	1.03	38.4	1.07	0.33	2	

Laboratory Control Sample Analysis

MONTGOMERY L2937

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	%R	Q
Gamma (Co-60)	063_14007	09/29/94	196	24.9	218	90	
Gamma (Cs-137)	063_14007	09/29/94	202	28.5	197	103	
Pu-239/40	108_14124	10/18/94	27.3	3.07	32.1	85	
Ra-226	073_13898	10/16/94	5.53	0.72	5.73	97	
Ra-228	074_13897	10/11/94	21.1	1.83	11.7	181	*
Sr-90	065_13777	10/02/94	30.2	1.51	26.0	116	
H3	066_14144	10/13/94	3841	441	4084	94	
Th-228	108_14097	10/11/94	NOT APPL	CABLE			
Th-230	108_14097	10/11/94	NOT APPL	CABLE			
Th-232	108_14097	10/11/94	16.4	1.20	17.3	94	
Total U	168_14067	09/27/94	98.5	1.97	102	97	

L2960

555 East Walnut Street
PO Box 7009
Pasadena California
91109 7009

Montgomery Laboratories

Subcontract Lab: LOCKHEED

Address:



Date: 9-15-94

Phone Number:

Attention: _____

PO#: SUB-136

Please provide results by mail/fax/telephone to MEUSSA HUDSON.

Montgomery Laboratories would like the following 1 sample(s) analysed for the test(s) listed below:

ML Lab Number	Sample ID	Sample Date	Account No.	Results Needed	Analytical Tests	Unit Cost
940915032	SJ-81603	9-14-94		OCT. 13, 1994	SR90, U, H3, RA226 & 228, U-238 & K-40 BY GAMMA SPEC, ISOTOPIC THORIUM & PLUTONIUM	

Special comments: _____

Relinquished by: [Signature]

Date: 9-15-94

Received by: [Signature]

Date: 9-16-94 / 0830

0111-250

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940915032

LAL Sample ID: L2960-1

Date Collected: 14-SEP-94

Date Received: 16-SEP-94

Matrix: Water

Login Number: L2960

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Sr-90	22-OCT-94	SR-90 LAL-0065_14210	0.47	0.64	1.1		pCi/L
Uranium	20-OCT-94	U TOTAL KPA LAL-0168_15003	1.783	0.099	0.098		ug/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940915032

LAL Sample ID: L2960-2

Date Collected: 14-SEP-94

Date Received: 16-SEP-94

Matrix: Water

Login Number: L2960

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Radium-226	16-OCT-94	RA-226 LAL-0073_13898	0.27	0.20	0.27		pCi/L
Radium-228	18-OCT-94	RA-228 LAL-0074_14789	0.16	0.35	0.60		pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940915032

LAL Sample ID: L2960-3

Date Collected: 14-SEP-94

Date Received: 16-SEP-94

Matrix: Water

Login Number: L2960

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Ac-228	29-SEP-94	GAMMA SPEC LAL-0063_14007	-8.	18.	32.		pCi/L
Bi-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	5.	15.	23.		pCi/L
Co-57	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.0	2.7	4.5		pCi/L
Co-60	29-SEP-94	GAMMA SPEC LAL-0063_14007	2.2	4.0	8.3		pCi/L
Cs-137	29-SEP-94	GAMMA SPEC LAL-0063_14007	1.8	5.6	7.7		pCi/L
K-40	29-SEP-94	GAMMA SPEC LAL-0063_14007	73.	80.	110		pCi/L
Pb-210	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.000	110	180		pCi/L
Pb-212	29-SEP-94	GAMMA SPEC LAL-0063_14007	2.	10.	16.		pCi/L
Pb-214	29-SEP-94	GAMMA SPEC LAL-0063_14007	7.	12.	20.		pCi/L
Ra-226(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	-60	110	180		pCi/L
Th-234	29-SEP-94	GAMMA SPEC LAL-0063_14007	5.	65.	160		pCi/L
Tl-208	29-SEP-94	GAMMA SPEC LAL-0063_14007	6.2	8.0	10.		pCi/L
U-235(GAMMA)	29-SEP-94	GAMMA SPEC LAL-0063_14007	-22.	14.	42.		pCi/L
V-48	29-SEP-94	GAMMA SPEC LAL-0063_14007	0.0	7.0	15.		pCi/L
Pu-238	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	0.03	0.18	0.37		pCi/L
Pu-239/40	18-OCT-94	PU-ISOTOPIC LAL-0108_14124	-0.015	0.029	0.30		pCi/L
Th-228	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.12	0.37	0.58	Y	pCi/L
Th-230	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	-0.58	0.43	0.33	Y	pCi/L
Th-232	07-OCT-94	TH-ISOTOPIC LAL-0108_14097	0.08	0.19	0.32	Y	pCi/L

RAD DATA REPORT (ra01)

Montgomery Laboratories * Pasadena, CA

Old Project (Project RADIOCHEMISTRY)

Client Sample ID: 940915032

LAL Sample ID: L2960-4

Date Collected: 14-SEP-94

Date Received: 16-SEP-94

Matrix: Water

Login Number: L2960

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
H-3	13-OCT-94	TRITIUM(H3) LAL-0066_14144	70	150	270		pCi/L

Reagent Blank Analysis

MONTGOMERY L2960

Analyte	Batch ID	MDA	Acceptance Limit	Date Analyzed	MBB result	Q
Gamma Spec	063_14007	NO ACTIVITY DETECTED				
Pu-239/40	108_14124	0.24	1.0	10/18/94	0.06	
Ra-226	073_13898	0.27	1.0	10/16/94	0.00	
Ra-228	074_14789	0.68	1.0	10/18/94	0.06	
Sr-90	065_14210	1.05	1.0	10/22/94	0.61	
H3	066_14144	257	300	10/13/94	70.8	
Th-228	108_14097	1.07	1.0	10/11/94	0.25	
Th-230	108_14097	0.42	1.0	10/11/94	0.00	
Th-232	108_14097	0.38	1.0	10/11/94	0.09	
Total U	168_15003	0.10	0.1	10/20/94	0.00	

Duplicate Sample Analysis

MONTGOMERY L2960

Analyte	Batch ID	Client ID	LAL ID	Date Analyzed	Sample Result	Error 2 sigma	Dup Result	Error 2 sigma	RER	RPD	Q
Gamma (K-40)	063_14007	KP8-SS-R11	L2939-43	09/29/94	-30.9	67.7	29.2	60.8	0.47	-7085	
Pu-239/40	108_14124	940902023	L2937-15	10/18/94	-0.01	0.02	0.00	0.00	0.53	-200	
Ra-226	073_13898	940902023	L2937-1	10/16/94	1.10	0.34	0.85	0.30	0.39	26	
Ra-228	074_14789	940902023	L2937-1	10/18/94	0.35	0.37	1.07	0.39	0.95	101	
Sr-90	065_14210	U02811	L2964-18	10/22/94	-0.61	0.63	0.56	0.64	0.92	-4680	
H3	066_14144	940912054	L2930-3	10/13/94	-11.1	134	96.8	153	0.38	252	
Th-228	108_14097	940908197	L2937-19	10/11/94	0.40	0.99	-0.31	0.48	0.48	1587	
Th-230	108_14097	940908197	L2937-19	10/11/94	1.80	0.91	0.31	0.57	1.01	141	*
Th-232	108_14097	940908197	L2937-19	10/11/94	1.20	0.57	0.31	0.27	1.07	118	*
Total U	168_15003	940915032	L2960-1	10/20/94	1.78	0.04	1.73	0.04	0.62	3	

Laboratory Control Sample Analysis

MONTGOMERY L2960

Analyte	Batch ID	Date Analyzed	LCS Result	Error 2 sigma	True Value	%R	Q
Gamma (Co-60)	063_14007	09/29/94	196	24.9	218	90	
Gamma (Cs-137)	063_14007	09/29/94	202	28.5	197	103	
Pu-239/40	108_14124	10/18/94	27.3	3.07	32.1	85	
Ra-226	073_13898	10/16/94	5.53	0.72	5.73	97	
Ra-228	074_14789	10/18/94	16.8	1.15	11.7	144 *	
Sr-90	065_14210	10/22/94	29.6	1.40	26.0	114	
H3	066_14144	10/13/94	3841	441	4084	94	
Th-228	108_14097	10/11/94	NOT APPL	CABLE			
Th-230	108_14097	10/11/94	NOT APPL	CABLE			
Th-232	108_14097	10/11/94	16.4	1.20	17.3	94	
Total U	168_15003	10/20/94	101.0	1.54	102	99	