B00B55-K25-021

0045189

Supplemental Data Package

Project 90-023

Radiochemistry AnaLis Reports

5-30-96
MC

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831-7440

May 2, 1991

Ms. Joan Kessner
Westinghouse Hanford Company
2355 Stevens Drive
Richland, Washington 99352

Dear Ms. Kessner:

Supplemental Data Package on Project 90-023: 1100-EM-1 Groundwater Samples

Attached are the AnaLis reports you requested for thirty-two (32) samples, Project 90-023, received into the Analytical Chemistry Department (ACD) laboratories on November 30, and December 5, 6, and 8, 1990. These results are a supplement to the previously submitted data package for Project 90-023. Sample identification information is included in Table 1.

I certify that this data package is in compliance with the terms and conditions of the OSM's revised Statement of Work and letter dated December 20, 1990, both technically and for completeness, for other than the conditions stated in the previous package. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Sincerely,

Deborah L. Amburgey
Program Manager
Hanford Support Program

Clarence R. Kirkpatrick
Program Manager
Waste Management Analysis

Roy W. Morrow
Department Manager
Analytical Chemistry Department (K-25)

Attachments
cc/attach: D.L.Amburgey
S.R.Smith - RC

cc: N.P.Buddin
H.H.Sullivan

Sample Identification Table for Supplemental Data Package

Project 90-0230
1100-EM-1 Groundwater Samples

Table 1:

Customer Sample No.	Analis/Lab Sample No.
BOOB55	901201-030
BOOB59	901201-031
BOOD21	901201-032
BOOD25	901201-033
BOOD25-MS	901201-034
BOOD25-MSD	901201-035
BOOD84	901206-014
BOOD72	901206-015
BOOD76	901206-016
BOOD76-MS	901206-017
BOOD76-MSD	901206-018
BOOD91	901208-027
BOOD91-MS	901208-028
BOODF7	901208-029
BOODF7-D	901208-030
BOOD80	901208-049
BOOD68	901208-050
BOOD68-MS	901208-051
BOOD68-MSD	901208-052
BOODD1	901210-002
BOODB5	901210-003
BOODG6	901210-005
BOODF3	901210-006
BOODF3-D	901210-007
BOODB0	901210-008
BOODC7	901210-009
BOODD9	901210-010
BOODD5	901210-011
BOODD5-MS	901210-012
BOODB9	901210-013
BOODC3	901210-014
BOODC3-D	901210-015

DOE ENVIRONMENTAL SURVEY

COVER PAGE

RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-90

Method Type: RAALP Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
BOCB55	901201-030		
BOCB59	" -031		

Comments:

Release of the data contained in this data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following si

(Signature) E. E. Clark
(Name) E. E. Clark
(Title) Supervisor Radiochemical Analysis
(Date) 2-6-91

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:09

AnaLIS ID: 901201-030 Project: G132 023 Customer Sample ID: B00B55
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	9.19	+/- 2.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	89.02	+/- 6.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.76E-1	+/- 6.0E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161008	IHA-485	Uranium Alpha Activity	NA	+/-	pCi/L	VS ARMSTRONG	ENV-476	15-JAN-1991
	IHA-485	Uranium-234	4.52	+/- 2.7	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-235	0	+/- 1.4	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-238	2.87	+/- 2.5	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
161608	EPA-905.0	Tritium	-5.1E2	+/- 2.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.07	+/- .42	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
19-APR-1991 10:10

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901201-031 Project: G132 023 Customer Sample ID: B00B59
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	4.99	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	57.65	+/- 5.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.01E-1	+/- 6.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161008	IHA-485	Uranium Alpha Activity	NA	+/-	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-234	3.53	+/- 2.5	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-235	08.82E-1	+/- 1.2	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-238	3.09	+/- 2.6	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
161608	EPA-905.0	Tritium	-4.9E2	+/- 2.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.56	+/- .48	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

DOE ENVIRONMENTAL SURVEY

COVER PAGE

RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-90

Method Type: RALSC Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00B55	901201-030	B00DB5	901210-003
B00B59	901201-031	B00DG6	" -005
B00D21	" -032	B00DF3	" -006
B00D25	" -033	B00DB0	" -008
B00D84	901206-014	B00DC7	" -009
B00D72	" -015	B00DD9	" -010
B00D76	" -016	B00DD5	" -011
B00D91	901208-027	B00DB9	" -013
B00DF7	" -029	B00DC3	" -014
B00D80	" -049		
B00D68	" -050		
B00DD1	901210-002		

Comments: Samples were analyzed for tritium by using EPA Method 906.0 and counted on a liquid scintillation counter.

Release of the data contained in this data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signat

(Signature) E. E. Clark
(Name) E. E. Clark
(Title) Supervisor - Radiochemical Analysis Group
(Date) 2-5-91

DOE ENVIRONMENTAL SURVEY

COVER PAGE

RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-90

Method Type: RAGA Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00B55	901201-030	B00DE5	901210-003
B00B59	" -031	B00DG6	" -005
B00D21	" -032	B00DF3	" -006
B00D25	" -033	B00DB0	" -008
B00D84	901206-014	B00DC7	" -009
B00D72	" -015	B00DD9	" -010
B00D76	" -016	B00DD5	" -011
B00D91	901208-027	B00DB9	" -013
B00DF7	" -029	B00DC3	" -014
B00D80	" -049		
B00D68	" -050		
B00D01	901210-002		

Comments: Samples were analyzed for radium by using EPA Method 903.0 and counted on an alpha-beta proportional counter.

Release of the data contained in this data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signa

(Signature) E. E. Clark
(Name) E. E. Clark
(Title) Supervisor - Radiochemical Analysis Group
(Date) 2-4-91

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:59

AnaLIS ID: 901201-030 Project: G132 023 Customer Sample ID: B00B55
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	9.19	+/- 2.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	89.02	+/- 6.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.76E-1	+/- 6.0E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161008	IHA-485	Uranium Alpha Activity	NA	+/-	pCi/L	VS ARMSTRONG	ENV-476	15-JAN-1991
	IHA-485	Uranium-234	4.52	+/- 2.7	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-235	0	+/- 1.4	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-238	2.87	+/- 2.5	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
161608	EPA-905.0	Tritium	-5.1E2	+/- 2.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.07	+/- .42	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:59

AnaLIS ID: 901201-031 Project: G132 023 Customer Sample ID: B00B59
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	4.99	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	57.65	+/- 5.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.01E-1	+/- 6.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161008	IHA-485	Uranium Alpha Activity	NA	+/-	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-234	3.53	+/- 2.5	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-235	08.82E-1	+/- 1.2	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-238	3.09	+/- 2.6	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
161608	EPA-905.0	Tritium	-4.9E2	+/- 2.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.56	+/- .48	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:59

AnaLIS ID: 901201-032 Project: G132 023 Customer Sample ID: B00D21
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	1.89	+/- 1.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	6.10	+/- 3.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.46E-1	+/- 6.5E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-6.0E2	+/- 4.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.24	+/- .40	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:59

AnaLIS ID: 901201-033 Project: G132 023 Customer Sample ID: B00D25
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	1.36	+/- 1.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	2.69	+/- 3.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	6.78E-1	+/- 7.0E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-5.9E2	+/- 4.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.38	+/- .42	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:59

AnaLIS ID: 901206-014 Project: G132 023 Customer Sample ID: B00D84
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 10-APR-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.20	+/- 1.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	9.07	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	2.17	+/- 1.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
	EPA-906.0	Strontium-89	-0.03	+/- 2.4	pCi/L	VS ARMSTRONG	ENV-476	10-APR-1991
	EPA 906.0							
	EPA-905.0	Strontium-90	-0.21	+/- 2.2	pCi/L	VS ARMSTRONG	ENV-476	10-APR-1991
161608	EPA-905.0	Tritium	-2.4E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-1.08	+/- 1.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 10-APR-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:59

AnaLIS ID: 901206-015 Project: G132 023 Customer Sample ID: B00072
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-0.23	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	8.38	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.68E-2	+/- 8.4E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.6	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.05	+/- 1.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:59

AnaLIS ID: 901206-016 Project: G132 023 Customer Sample ID: B00076
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.81	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	10.38	+/- 3.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-6.12E-1	+/- 7.9E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-5.6E2	+/- 2.6E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.60	+/- 1.1	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:00

AnaLIS ID: 901208-027 Project: G132 023C Customer Sample ID: B00091
Customer: KESSNER/FORD Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 6-DEC-1990
Sampled By: Date Sample Completed: 19-MAR-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.42	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	3.93	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-3.27E-1	+/- 8.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.7E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	NA	+/-	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
205359		Data Packaging (CLP)	C			SR SMITH	SRS	19-MAR-1991

Program Manager: D. L. Amburgey
Date Approved: 20-MAR-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:00

AnaLIS ID: 901208-029 Project: G132 023C Customer Sample ID: B00DF7
Customer: KESSNER/FORD Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 6-DEC-1990
Sampled By: Date Sample Completed: 19-MAR-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.83	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	3.25	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	NA	+/-	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.9E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	NA	+/-	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
205359		Data Packaging (CLP)	C			SR SMITH	SRS	19-MAR-1991

This sample is a duplicate of sample 901208-030

Program Manager: D. L. Amburgey
Date Approved: 20-MAR-1991

Date Printed:
19-APR-1991 10:00

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901208-049 Project: G132 023 Customer Sample ID: B00080
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	2.04	+/- 2.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	11.89	+/- 3.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.26	+/- 7.3E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.8E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.87	+/- 1.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:00

AnaLIS ID: 901208-050 Project: G132 023 Customer Sample ID: B00068
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-0.19	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	8.92	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-6.25E-2	+/- 7.9E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.3E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-6.0	+/- .9	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901208-052

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:01

AnaLIS ID: 901210-002 Project: G132 023 Customer Sample ID: B00DD1
Customer: J. KESSNER Requisition Number:
Date Sampled: 7-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	3.50	+/- 2.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	14.98	+/- 3.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.18	+/- 6.3E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	18.55	+/- 2.9E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.51	+/- 1.1	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
19-APR-1991 10:01

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-003 Project: G132 023 Customer Sample ID: B00DB5
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.67	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	4.96	+/- 3.3	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-3.82E-1	+/- 8.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.6E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.19	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:01

AnaLIS ID: 901210-005 Project: G132 023 Customer Sample ID: BOODG6
Customer: J. KESSNER Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.48	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	1.87	+/- 3.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.23	+/- 7.3E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.8E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	1.30	+/- .8	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:01

AnaLIS ID: 901210-006 Project: G132 023 Customer Sample ID: B00DF3
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.02	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	4.20	+/- 3.3	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.13	+/- 7.4E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.0E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.36	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901210-007

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:02

AnaLIS ID: 901210-008 Project: G132 023 Customer Sample ID: B000B0
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	0.83	+/- 1.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	13.81	+/- 3.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.12	+/- 7.4E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.2E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.34	+/- .4	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:02

AnaLIS ID: 901210-009 Project: G132 023 Customer Sample ID: B00DC7
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	0.67	+/- 1.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	9.24	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-3.59E-1	+/- 7.7E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.5E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.31	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:02

AnaLIS ID: 901210-010 Project: G132 023 Customer Sample ID: BOODD9
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.29	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	2.63	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-9.18E-1	+/- 7.2E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-1.7E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.03	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
19-APR-1991 10:02

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-011 Project: G132 023 Customer Sample ID: B00DD5
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.62	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	0.34	+/- 3.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.03	+/- 7.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.6E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.19	+/- .7	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
19-APR-1991 10:03

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-013 Project: G132 023 Customer Sample ID: B00DB9
Customer: J. KESSNER Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.34	+/- 1.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	2.82	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.12	+/- 7.0E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-3.5E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.16	+/- .4	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 10:03

AnaLIS ID: 901210-014 Project: G132 023 Customer Sample ID: B000C3
Customer: J. KESSNER Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	1.58	+/- 1.9	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	8.05	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.96E-1	+/- 8.2E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.3E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV	19-FEB-1991
161708	EPA-903.0	Radium	-.36	+/- .4	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901210-015

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

DOE ENVIRONMENTAL SURVEY

COVER PAGE

RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-9

Method Type: RAPC (Pg. 2) Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00DE3-D	901210-007		
B00DB0	" -008		
B00DC7	" -009		
B00DD9	" -010		
B00DD5	" -011		
B00DD5-MS	" -012		
B00DB9	" -013		
B00DC3	" -014		
B00DC3-D	" -015		

Comments:

Release of the data contained in this data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following

(Signature)

(Name)

(Title)

(Date)

DOE ENVIRONMENTAL SURVEY

COVER PAGE

RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-90

Method Type: RAGS Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00B55	901801-030	B00D91-MS	901808-038
B00B59	" -031	B00DF7	" -039
B00D21	" -032	B00DF7-D	" -040
B00D35	" -033	B00D90	" -049
B00D25-MS	" -034	B00D68	" -050
B00D25-MSD	" -035	B00D68-MS	" -051
B00D84	901806-014	B00D68-D	" -052
B00D72	" -015	B00DD1	901810-002
B00D76	" -016	B00DB5	" -003
B00D76-MS	" -017	B00DB5-MS	" -004
B00D76-MSD	" -018	B00DG6	" -005
B00D91	901808-037	B00DF3	" -006

Comments: Samples were analyzed for gross beta by using EPA Method 900.0 and counted on an alpha-beta proportional counter.

Release of the data contained in this data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following

(Signature) E.E. Clark
(Name) E.E. Clark
(Title) Supervisor - Radiochemical Analysis
(Date) 2-7-91

MC 5-30-96

DOE ENVIRONMENTAL SURVEY

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RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013.9

Method Type: RAG3 (Pg. 2) Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00DE3-D	901210-007		
B00DB0	" -008		
B00DC7	" -009		
B00DD9	" -010		
B00DD5	" -011		
B00DD5-MS	" -012		
B00DB9	" -013		
B00DC3	" -014		
B00DC3-D	" -015		

Comments:

Release of the data contained in this data package has been authorized by t
Laboratory Manager or the Manager's designee, as verified by the following

(Signature)
(Name)
(Title)
(Date)

3t 32 MC

DOE ENVIRONMENTAL SURVEY

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RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-90

Method Type: RAGA Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00B55	901201-030	B00D91-MS	901208-028
B00B59	" -031	B00DF7	" -029
B00D31	" -032	B00DF7-D	" -030
B00D35	" -033	B00D80	" -049
B00D85-MS	" -034	B00D68	" -050
B00D25-MSD	" -035	B00D68-MS	" -051
B00D84	901206-014	B00D68-D	" -052
B00D72	" -015	B00DD1	901210-002
B00D76	" -016	B00DB5	" -003
B00D76-MS	" -017	B00DB5-MS	" -004
B00D76-MSD	" -018	B00DG6	" -005
B00D91	901208-027	B00DF3	" -006

Comments: Samples were analyzed for gross alpha by using EPA Method 900.0 and counted on an alpha-beta proportional counter.

Release of the data contained in this data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following s

(Signature) E.E. Clark
(Name) E.E. Clark
(Title) Supervisor - Radiochemical Analysis
(Date) 2-7-91

MC 5-30-96

DOE ENVIRONMENTAL SURVEY

COVER PAGE

RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-90

Method Type: RAGA (Pg. 2) Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00DE3-D	901210-007		
B00DB0	" -008		
B00DC7	" -009		
B00DD9	" -010		
B00DD5	" -011		
B00DD5-MS	" -012		
B00DB9	" -013		
B00DC3	" -014		
B00DC3-D	" -015		

Comments:

Release of the data contained in this data package has been authorized by th
Laboratory Manager or the Manager's designee, as verified by the following s

(Signature)
(Name)
(Title)
(Date)

MC 5-30-96

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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:53

AnaLIS ID: 901210-007 Project: G132 023 Customer Sample ID: BOODF3-D
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.89	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	3.01	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-9.45E-1	+/- 7.6E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.2E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.25	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901210-006

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:53

AnaLIS ID: 901210-008 Project: G132 023 Customer Sample ID: B00DB0
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	0.83	+/- 1.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	13.81	+/- 3.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.12	+/- 7.4E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.2E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.34	+/- .4	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

MC

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Date Printed:
19-APR-1991 09:53

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-009 Project: G132 023 Customer Sample ID: B00DC7
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	0.67	+/- 1.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	9.24	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-3.59E-1	+/- 7.7E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.5E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.31	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
19-APR-1991 09:56

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-010 Project: G132 023 Customer Sample ID: B000D9
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.29	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	2.63	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-9.18E-1	+/- 7.2E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-1.7E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.03	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:54

AnaLIS ID: 901210-011 Project: G132 023 Customer Sample ID: B00DD5
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.62	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	0.34	+/- 3.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.03	+/- 7.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.6E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.19	+/- .7	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
19-APR-1991 09:54

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-012 Project: G132 023 Customer Sample ID: BOODD5-MS
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	16.35	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	35.64	+/- 4.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.63E3	+/- 1.5E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	7.05E3	+/- 5.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	25.68	+/- 2.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
RADIUM	.19	24	26	pCi/L	26.	107.54
TRITIUM	-260	7653	7047	pCi/L	7307.	95.48

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-013 Project: G132 023 Customer Sample ID: B00DB9
Customer: J. KESSNER Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.34	+/- 1.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	2.82	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.12	+/- 7.0E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-3.5E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.16	+/- .4	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
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AnaLIS ID: 901210-014 Project: G132 023 Customer Sample ID: B00DC3
Customer: J. KESSNER Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	1.58	+/- 1.9	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	8.05	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.96E-1	+/- 8.2E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.3E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV	19-FEB-1991
161708	EPA-903.0	Radium	-.36	+/- .4	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901210-015

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-015 Project: G132 023 Customer Sample ID: B00DC3-D
Customer: J. KESSNER Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	0.24	+/- 1.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	9.54	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-6.91E-1	+/- 7.4E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.2E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.59	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901210-014

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

DOE ENVIRONMENTAL SURVEY

COVER PAGE

RADIOANALYTICAL ANALYSES DATA PACKAGE

Lab Name: K-25 Case No.: STA-0013-90

Method Type: RAGPC Report No.:

Sample Numbers

DOE Sample No.	Lab ID No.	DOE Sample No.	Lab ID No.
B00B55	901201-030	B00D91-MS	901208-028
B00B59	" -031	B00DE7	" -029
B00D21	" -032	B00DE7-D	" -030
B00D35	" -033	B00D80	" -049
B00D85-MS	" -034	B00D68	" -050
B00D85-MSD	" -035	B00D68-MS	" -051
B00D84	901206-014	B00D68-MSD	" -052
B00D78	" -015	B00DD1	901210-002
B00D76	" -016	B00DB5	" -003
B00D76-MS	" -017	B00DB5-MS	" -004
B00D76-MSD	" -018	B00D96	" -005
B00D91	901208-027	B00DE3	" -006

Comments: Samples were analyzed for Strontium (Total) by using EPA Method 905.0 and counted on an alpha-beta proportional counter.

Release of the data contained in this data package has been authorized by Laboratory Manager or the Manager's designee, as verified by the following

(Signature) E. E. Clark
(Name) E. E. Clark
(Title) Supervisor - Radiochemical Analysis
(Date) 2-7-91

Date Printed:
19-APR-1991 09:44

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901201-030 Project: G132 023 Customer Sample ID: B00B55
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	9.19	+/- 2.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	89.02	+/- 6.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.76E-1	+/- 6.0E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161008	IHA-485	Uranium Alpha Activity	NA	+/-	pCi/L	VS ARMSTRONG	ENV-476	15-JAN-1991
	IHA-485	Uranium-234	4.52	+/- 2.7	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-235	0	+/- 1.4	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-238	2.87	+/- 2.5	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
161608	EPA-905.0	Tritium	-5.1E2	+/- 2.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.07	+/- .42	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901201-031 Project: G132 023 Customer Sample ID: B00B59
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	4.99	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	57.65	+/- 5.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.01E-1	+/- 6.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161008	IHA-485	Uranium Alpha Activity	NA	+/-	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-234	3.53	+/- 2.5	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-235	08.82E-1	+/- 1.2	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
	IHA-485	Uranium-238	3.09	+/- 2.6	pCi/L	VS ARMSTRONG	ENV-476	15-FEB-1991
161608	EPA-905.0	Tritium	-4.9E2	+/- 2.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.56	+/- .48	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
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AnaLIS ID: 901201-032 Project: G132 023 Customer Sample ID: B00D21
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	1.89	+/- 1.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	6.10	+/- 3.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.46E-1	+/- 6.5E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-6.0E2	+/- 4.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.24	+/- .40	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901201-033 Project: G132 023 Customer Sample ID: B00D25
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	1.36	+/- 1.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	2.69	+/- 3.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	6.78E-1	+/- 7.0E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-5.9E2	+/- 4.1E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.38	+/- .42	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
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AnaLIS ID: 901201-034 Project: G132 023 Customer Sample ID: B00D25MS
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	9.97	+/- 2.3	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	26.79	+/- 4.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	3.0E3	+/- 2.1E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	8.19E3	+/- 8.8E3	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	16	+/- 1.3	pCi/L	DS VAUGHN	ENV=-476	5-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
RADIUM	.38	24	16	pCi/L	16.	65.08
TRITIUM	-594	7653	6976	pCi/L	7570.	98.92

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901201-035 Project: G132 023 Customer Sample ID: B00D25MSD
Customer: J. KESSNER Requisition Number:
Date Sampled: 27-NOV-1990 Date Sample Received: 30-NOV-1990
Sampled By: LW Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	13.43	+/- 2.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	39.39	+/- 5.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	2.89E3	+/- 2.1E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	8.18E3	+/- 6.0E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	17	+/- 1.5	pCi/L	DS VAUGHN	ENV-476	5-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
RADIUM	.38	24	17	pCi/L	17.	69.25
TRITIUM	-594	7653	7584	pCi/L	8178.	106.86

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901206-014 Project: G132 023
Customer: J. KESSNER
Date Sampled: 3-DEC-1990
Sampled By:
Material Description: GROUNDWATERS

Customer Sample ID: B00D84
Requisition Number:
Date Sample Received: 5-DEC-1990
Date Sample Completed: 10-APR-1991
[] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.20	+/- 1.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	9.07	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	2.17	+/- 1.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
	EPA-906.0	Strontium-89	-0.03	+/- 2.4	pCi/L	VS ARMSTRONG	ENV-476	10-APR-1991
	EPA 906.0 EPA-905.0	Strontium-90	-0.21	+/- 2.2	pCi/L	VS ARMSTRONG	ENV-476	10-APR-1991
161608	EPA-905.0	Tritium	-2.4E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-1.08	+/- 1.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 10-APR-1991

Date Printed:
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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901206-015 Project: G132 023 Customer Sample ID: B00D72
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-0.23	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	8.38	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.68E-2	+/- 8.4E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.6	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.05	+/- 1.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
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AnaLIS ID: 901206-016 Project: G132 023 Customer Sample ID: B00D76
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.81	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	10.38	+/- 3.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-6.12E-1	+/- 7.9E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-5.6E2	+/- 2.6E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.60	+/- 1.1	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
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Date Printed:
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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901206-017 Project: G132 023 Customer Sample ID: B00D76-MS
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	15.51	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	42.73	+/- 5.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	2.9E3	+/- 2.1E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	1.33E4	+/- 6.4E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	26.58	+/- 2.3	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
RADIUM	.60	24	27	pCi/L	26.	110.00
TRITIUM	-560	15306	13278	pCi/L	13838.	90.41

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901206-018 Project: G132 023 Customer Sample ID: B00D76-MSD
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	13.76	+/- 3.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	38.63	+/- 4.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	2.58E3	+/- 1.9E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	1.37E4	+/- 6.4E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	29.28	+/- 2.7	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
RADIUM	-1.08	24	29	pCi/L	30.	125.33
TRITIUM	-560	15306	13727	pCi/L	14287.	93.34

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:46

AnaLIS ID: 901208-027 Project: G132 023C Customer Sample ID: B00091
Customer: KESSNER/FORD Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 6-DEC-1990
Sampled By: Date Sample Completed: 19-MAR-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.42	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	3.93	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-3.27E-1	+/- 8.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.7E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	NA	+/-	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
205359		Data Packaging (CLP)	C			SR SMITH	SRS	19-MAR-1991

Program Manager: D. L. Amburgey
Date Approved: 20-MAR-1991

Date Printed:
19-APR-1991 09:46

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901208-028 Project: G132 023C Customer Sample ID: B00D91-MS
Customer: KESSNER/FORD Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 6-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	13.49	+/- 3.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	33.54	+/- 4.6	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	1.93E3	+/- 1.7E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	7.7E3	+/- 5.2E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	NA	+/-	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
TRITIUM	-270	7653	7440	pCi/L	7710.	100.74

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:46

AnaLIS ID: 901208-029 Project: G132 023C Customer Sample ID: B00DF7
Customer: KESSNER/FORD Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 6-DEC-1990
Sampled By: Date Sample Completed: 19-MAR-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-1.83	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	3.25	+/- 3.2	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	NA	+/-	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.9E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	NA	+/-	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
205359		Data Packaging (CLP)	C			SR SMITH	SRS	19-MAR-1991

This sample is a duplicate of sample 901208-030

Program Manager: D. L. Amburgey
Date Approved: 20-MAR-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:47

AnaLIS ID: 901208-030 Project: G132 023C Customer Sample ID: BOODF7-D
Customer: KESSNER/FORD Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 6-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.22	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	0.98	+/- 3.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-8.10E-1	+/- 7.7E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.2E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	NA	+/-	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901208-029

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:47

AnaLIS ID: 901208-049 Project: G132 023 Customer Sample ID: B00D80
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	2.04	+/- 2.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	11.89	+/- 3.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.26	+/- 7.3E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.8E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.87	+/- 1.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:47

AnaLIS ID: 901208-050 Project: G132 023 Customer Sample ID: B00D68
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-0.19	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	8.92	+/- 3.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-6.25E-2	+/- 7.9E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.3E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-6.0	+/- .9	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901208-052

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:47

AnaLIS ID: 901208-051 Project: G132 023 Customer Sample ID: B00D68-MS
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	14.98	+/- 3.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	38.86	+/- 4.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	2.39E3	+/- 1.9E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	6.59E3	+/- 4.9E2	pCi/L	DS VAUGHN	ENV-	19-FEB-1991
161708	EPA-903.0	Radium	28.38	+/- 2.3	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
RADIUM	-.60	24	28	pCi/L	29.	119.17
TRITIUM	-230	7653	6587	pCi/L	6817.	89.08

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:47

AnaLIS ID: 901208-052 Project: G132 023 Customer Sample ID: B00068-D
Customer: J. KESSNER Requisition Number:
Date Sampled: 3-DEC-1990 Date Sample Received: 5-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-0.66	+/- 1.7	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	7.52	+/- 3.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	6.06E3	+/- 3.0E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-3.7E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.69	+/- 1.0	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901208-050

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:48

AnaLIS ID: 901210-002 Project: G132 023 Customer Sample ID: B00DD1
Customer: J. KESSNER Requisition Number:
Date Sampled: 7-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	3.50	+/- 2.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	14.98	+/- 3.8	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-2.18	+/- 6.3E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	18.55	+/- 2.9E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.51	+/- 1.1	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Date Printed:
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Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

AnaLIS ID: 901210-003 Project: G132 023 Customer Sample ID: B00DB5
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.67	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	4.96	+/- 3.3	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-3.82E-1	+/- 8.1E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.6E2	+/- 2.8E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	-.19	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
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AnaLIS ID: 901210-004 Project: G132 023 Customer Sample ID: B00DB5-MS
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	13.79	+/- 3.0	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	39.10	+/- 4.9	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	2.66E3	+/- 2.0E1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	1.28E4	+/- 6.3E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	30.63	+/- 2.4	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
RADIUM	-.19	24	31	pCi/L	31.	129.96
TRITIUM	-260	15306	12845	pCi/L	13105.	85.62

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:48

AnaLIS ID: 901210-005 Project: G132 023 Customer Sample ID: B00DG6
Customer: J. KESSNER Requisition Number:
Date Sampled: 4-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.48	+/- 1.4	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	1.87	+/- 3.1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.23	+/- 7.3E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-2.8E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	1.30	+/- .8	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
19-APR-1991 09:49

AnaLIS ID: 901210-006 Project: G132 023 Customer Sample ID: B00DF3
Customer: J. KESSNER Requisition Number:
Date Sampled: 5-DEC-1990 Date Sample Received: 8-DEC-1990
Sampled By: Date Sample Completed: 19-FEB-1991
Material Description: GROUNDWATERS [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Limit of Error	Units	Analyst	QA File Number	Date Completed
160208	EPA-900.0	Alpha Activity	-2.02	+/- 1.5	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160308	EPA-900.0	Beta Activity	4.20	+/- 3.3	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
160808	EPA-906.0	Strontium	-1.13	+/- 7.4E-1	pCi/L	ES WILLIAMS	ENV-476	9-FEB-1991
161608	EPA-905.0	Tritium	-4.0E2	+/- 2.7E2	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991
161708	EPA-903.0	Radium	.36	+/- .5	pCi/L	DS VAUGHN	ENV-476	19-FEB-1991

This sample is a duplicate of sample 901210-007

Program Manager: D. L. Amburgey
Date Approved: 26-FEB-1991