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QUARTERLY REPORT

ST. CHARLES COUNTY WELL FIELD

MONITORING PROJECT

GRANT NO. DE-FG05-89OR21864

SUPERSEDED

Prepared by: Stanley Remington
July August and September 1997

MONTHLY REPORT

JULY 1997

BY

Stanley Remington

Consulting Hydrologist

I. CHEMICAL ANALYSES

The results of testing wells RMW-2 and PW-9 have been received and are appended. These wells were sampled on June 16, 1997. They were the quarterly samples which I take with the Department of Energy. They include some chemical parameters for which normally I do not test. The metals and inorganics all show normal values. Well RMW-2, an observation well, showed an arsenic content of 67.9 ug/L. It has been noted that the arsenic content of this well has been fairly persistent over the last several months. There is no obvious reason for this. However the total content is not over the NPDES limit. On the other hand no arsenic was noted in well PW-9, the nearest pumping well from RMW-2. The Department of Energy has also picked up the arsenic in about the same quantity as my analysis. Well PW-8 was sampled by me on July 28, 1997. The results have not yet been received.

II. FUTURE PLANS

I will test well PW-2 in the latter part of August. Now that my surgery has been completed I should be able to resume a more normal schedule. I will continue analyzing any and all reports received by me and will continue to sample wells and treated waters whenever these are required.

III. MISCELLANEOUS

Appended is the St. Charles County Water Department Water Sales Report for June 1997.

Very little was done by me during July 1997 since as stated above I was in the hospital from July 3 to July 24, 1997. Fortunately my recovery is going well and I do not anticipate any more physical problems in the near future.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

July 14, 1997

Stanley M. Remington
956 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #19234.01-#19234.02
Weldon Spring

Dear Mr. Remington:

Enclosed are the analytical reports for the samples received in our laboratory on June 16, 1997.

If, in your review, you should have any questions or require additional information, please call Ruseal Brewer, Assistant Project Manager, or me at (314) 434-4570.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Richard Mannz

Richard H. Mannz RB
Project Manager

Enclosures

RHM/dms

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

SAMPLE MATRIX : WATER
ATAS EPISODE : #19234
DATE SUBMITTED: 06-19-97
PROJECT REF. : WELDON SPRING

RESULTS REPORTED IN pCi/L

CLIENT ID	ATAS ID	RADIONUCLIDE	RESULT
RMW-2	19234.01	GROSS ALPHA	3.29+/- 4.49*
RMW-2	19234.01	GROSS BETA	4.45+/- 3.52*
RMW-2	19234.01	TOTAL URANIUM (mg/L)	5.49+/- 1.17*
PW-9	19234.02	GROSS ALPHA	2.61+/- 3.18*
PW-9	19234.02	GROSS BETA	4.94+/- 3.26*
PW-9	19234.02	TOTAL URANIUM (mg/L)	0.89+/- 0.60*

* VARIABILITY OF THE RADIOACTIVE DISINTERGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
pCi/L= PICOCURIES PER LITER
mg/L = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

SAMPLE MATRIX : SOIL
ATAS # : 19234.01
DATE SUBMITTED: 06-19-97
PROJECT : WELDON SPRING
SAMPLE ID : RMW-2

PARAMETER	REPORTING LIMIT	UNITS	RESULTS	DATE ANALYZED	METHOD REFERENCE
			INORGANICS		
NITRATE	1.05	mg/L	ND	06-19-97	SM 418B
			METALS		
ARSENIC	10.0	ug/L	67.9	07-07-97	SW 6010
BERYLLIUM	2.0	ug/L	ND	07-07-97	SW 6010
COPPER	7.0	ug/L	ND	07-07-97	SW 6010
IRON	100	ug/L	6860	07-07-97	SW 6010
LEAD	3.0	ug/L	ND	07-07-97	SW 6010
MANGANESE	3.0	ug/L	953	07-07-97	SW 6010
MERCURY	0.20	ug/L	ND	07-07-97	SW 7470
ZINC	20.0	ug/L	24.8	07-07-97	SW 6010

ug/L = PARTS PER BILLION(PPB)
ND = NOT DETECTED ABOVE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

SAMPLE MATRIX : SOIL
ATAS # : 19234.02
DATE SUBMITTED: 06-19-97
PROJECT : WELDON SPRING
SAMPLE ID : PW-9

PARAMETER	REPORTING LIMIT	UNITS	RESULTS	DATE ANALYZED	METHOD REFERENCE
			INORGANICS		
NITRATE	1.0	mg/L	ND	06-19-97	SM 418B
			METALS		
ARSENIC	10.0	ug/L	ND	07-07-97	SW 6010
BERYLLIUM	2.0	ug/L	ND	07-07-97	SW 6010
COPPER	7.0	ug/L	ND	07-07-97	SW 6010
IRON	100	ug/L	5840	07-07-97	SW 6010
LEAD	3.0	ug/L	ND	07-07-97	SW 6010
MANGANESE	3.0	ug/L	379	07-07-97	SW 6010
MERCURY	0.20	ug/L	ND	07-07-97	SW 7470
ZINC	20.0	ug/L	ND	07-07-97	SW 6010

ug/L = PARTS PER BILLION(PPB)
ND = NOT DETECTED ABOVE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

QA/QC

DESCRIPTION		PARAMETER	RESULTS	
METHOD BLANK	07-07-97	ARSENIC	<10.0	ug/L
METHOD BLANK	07-07-97	BERYLLIUM	<2.0	ug/L
METHOD BLANK	07-07-97	COPPER	<7.0	ug/L
METHOD BLANK	07-07-97	IRON	<100	ug/L
METHOD BLANK	07-07-97	LEAD	<3.0	ug/L
METHOD BLANK	07-07-97	MANGANESE	<3.0	ug/L
METHOD BLANK	07-07-97	ZINC	<20.0	ug/L
METHOD BLANK	07-07-97	MERCURY	<0.2	ug/L
CONTROL SPIKE	07-07-97	ARSENIC	101 %	RECOVERY
CONTROL SPIKE	07-07-97	BERYLLIUM	101 %	RECOVERY
CONTROL SPIKE	07-07-97	COPPER	96 %	RECOVERY
CONTROL SPIKE	07-07-97	IRON	102 %	RECOVERY
CONTROL SPIKE	07-07-97	LEAD	95 %	RECOVERY
CONTROL SPIKE	07-07-97	MANGANESE	96 %	RECOVERY
CONTROL SPIKE	07-07-97	ZINC	93 %	RECOVERY
CONTROL SPIKE	07-07-97	MERCURY	87 %	RECOVERY

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

SAMPLE MATRIX : WATER
ATAS # : 19234.01
DATE SUBMITTED: 06-19-97
DATE EXTRACTED: 06-26-97
DATE ANALYZED : 06-26-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : RMW-2

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
TNB	7.3	ND
DNB	4.0	ND
TETRYL	10.0	ND
NB	7.0	ND
TNT	6.4	ND
4ADNT	7.0	ND
2ADNT	12.0	ND
26DNT	9.4	ND
24DNT	5.7	ND
2NT	12.0	ND
4NT	8.0	ND
3NT	7.9	ND

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

IENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

SAMPLE MATRIX : WATER
ATAS # : 19234.02
DATE SUBMITTED: 06-19-97
DATE EXTRACTED: 06-26-97
DATE ANALYZED : 06-26-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : PW-9

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
TNB	7.3	ND
DNB	4.0	ND
TETRYL	10.0	ND
NB	7.0	ND
TNT	6.4	ND
4ADNT	7.0	ND
2ADNT	12.0	ND
26DNT	9.4	ND
24DNT	5.7	ND
2NT	12.0	ND
4NT	8.0	ND
3NT	7.9	ND

D= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 06-19-97
DATE EXTRACTED: 06-26-97
DATE ANALYZED : 06-26-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
TNB	7.3	ND
DNB	4.0	ND
TETRYL	10.0	ND
NB	7.0	ND
TNT	6.4	ND
4ADNT	7.0	ND
2ADNT	12.0	ND
26DNT	9.4	ND
24DNT	5.7	ND
2NT	12.0	ND
4NT	8.0	ND
3NT	7.9	ND

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1923401RA(286)

DATE : 07-14-97

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 06-19-97
DATE EXTRACTED: 06-26-97
DATE ANALYZED : 06-26-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

COMPOUND	PERCENT RECOVERY
HMX	88 %
RDX	97 %
TNB	113 %
DNB	105 %
TETRYL	106 %
NB	110 %
TNT	110 %
4ADNT	108 %
2ADNT	103 %
26DNT	106 %
24DNT	100 %
2NT	100 %
4NT	103 %
3NT	105 %

ATA

AMERICAN TECHNICAL & ANALYTICAL SERVICES, Inc.

875 Fee Fee Road • Maryland Heights, MO 63043-3211 • Office (314) 434-4570 • FAX (314) 434-0060

PAGE ____ OF ____

CHAIN OF CUSTODY RECORD

ATAS Client Name: STAN REMINGTON

Project Name: WELDON SPRING

Project #:

Form Completed By:

PO #:

Type of Analysis / Preservative Ice Chemical (see below)

Sample ID	Sample Date	Sample Time	Sample Matrix	Grab	Comp	No. of Containers	NITRIS	NO3	METALS	GROSS α & β	TOTAL U	TSS				Remarks	Lab Use Only Initials LM Date 6-19-97 Location/Temp 62-BA 21°
RMW-2	6/19/97	0900		X			X	X	X	X	X						19234 01
PW-9	"	0915		X			X	X	X	X	X						↓ 02
TREAT. PLANT	"	0800			X							X					

Relinquished by:	Received by:	Relinquished by:	Received by:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Printed Name: STAN REMINGTON	Printed Name: WALTER DOEGO	Printed Name:	Printed Name:
Firm: WELDON SPRING	Firm: ATAS	Firm:	Firm:
Date/Time: JUNE 19, 1997 1035AM	Date/Time: 6-19-97 1035	Date/Time:	Date/Time:

Turnaround Requirements

____ 1 to 2 working days

____ 3 working days

____ 5 working days

____ 10 working days

____ 15 working days

Preservative codes

A - none

B - HNO_3

C - H_2SO_4

D - NaOH

E - HCl

F - ____

SEND RESULTS TO (Name & Company) : _____

Original to ATAS/Copy to Client

St. Charles County Water Department
1635 South Highway 94
Defiance, Missouri 63341
(314)-926-9222
Fax 926-8911

JUN-97 Water Sales Report

Date of Report 07/03/97		JUNE	YEAR TO DATE
Water Production		402,587,000	1,917,132,000
Washwater Used		9,193,000	39,359,000
Del to System	**Total-------**	**393,394,000**	1,877,773,000
Mo. American	Booster Station	288,845,000	
4132835-007	Francis Howell	40,000	
4132850-007	Mo. Hwys Trans.	100	
4133000-004	M. K. Fergusen	817,000	
4133040-015	M. K. Fergusen	570,000	
4133010-002	M. K. Fergusen	117,000	
4133020-000	M, K. Fergusen	31,000	
4132855-002	Francis Howell	588,000	
4132890-009	M. K. Fergusen	68,000	
95018237-000	M. K. Fergusen	124,000	
4132851-006	Mo. Hwys Trans.	600	
	Total-------	**291,201,000**	1,326,181,000
Water Dist. #2	24" East Line	0	
	24" West Line	87,347,000	
	Bypass	0	
	Total-------	**87,347,000**	451,272,000
Water Dist. #2	New Melle		
	Total-------	**7,819,000**	40,003,000
National Guard	Blgd S-61	0	
	Wash Rack	1,000	
	Total-------	**1,000**	30,000
Water Sales	**********	**386,368,000**	1,823,687,000
Unaccounted for (A:\JUNWS97.wpd)	**********	**7,026,000**	54,086,000

St. Charles County Water Department
1635 South Highway 94
Defiance, Missouri 63341
(314)-926-9222
Fax 926-8911

JUN-97 Inventory of Chemicals

6-11 352514 11240

Date	Invoice #	LIME	Date	Invoice #	CL2
5-31	**Balance**	**434131**	**5-31**	**Balance**	**9058**
6-3	351261	49420	6-5	97-1049	8000
6-4	351484	49780	6-20	97-1195	8000
6-5	351613	49280			
6-10	352274	48720			
6-17	353391	50040			
6-19	353692	50300			
6-24	354415	48560			
6-26	354777	50160			
Amount Received		**407500**			**16000**
Total Amount		830391			25058
Amount Used		506820			20940
Balance 5-31		**335085**			**4158**
lbs. Per. 1000 Gallons		1.25			0.052
Part Per. Million		150			6.04
Avg. Day Usage		16894			693
Year to Date		**2549712**			**104750**

(A:\JUN97inv.wpd)

MONTHLY REPORT

AUGUST 1997

BY

Stanley Remington

Consulting Hydrologist

I. CHEMICAL ANALYSIS

The results from well samples taken on July 28, 1997 from well PW-8 have been received and are appended. All of the results are well within the NPDES limits and are within historical ranges. Gross alpha, gross beta, total uranium and nitro-aromatics were tested.

Well PW-2 was tested on August 18, 1997 but the results have not yet been received.

II. REPORTS

The second quarterly report for April, May and June 1997 was received from the Department of Energy. No abnormal readings were shown on any of our pumping wells or at the water treatment plant at Weldon Spring.

III. FUTURE PLANS

I will sample with the Department of Energy the quarterly sampling during September 1997. I will sample RMW-2 and PW-9. Also I will review any reports submitted to me from various agencies in the state.

IV. MISCELLANEOUS

The results from the St. Louis County Department of Health analyses of the gross alpha and gross beta, taken at the water treatment plant at Weldon Spring both for raw and treated water are appended. Both results are well within NPDES ranges.

The monthly water sales report is appended for July 1997. A large increase in sales was noted because of the lack of rainfall during July.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

August 20, 1997

Stanley M. Remington
956 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #19563.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on July 28, 1997.

If, in your review, you should have any questions or require additional information, please call Ruseal Brewer, Assistant Project Manager, or me at (314) 434-4570.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Ruseal Brewer FOR
Jeffrey A. Carr
Project Manager

Enclosures

JAC/jp

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1956301RA(290)

DATE : 08-20-97

SAMPLE MATRIX : WATER
ATAS EPISODE : #19563
DATE SUBMITTED: 07-28-97
PROJECT REF. : WELDON SPRING

RESULTS REPORTED IN pCi/L

CLIENT ID	ATAS ID	RADIONUCLIDE	RESULT
PW-8	19563.01	GROSS ALPHA	2 +/- 2*
PW-8	19563.01	GROSS BETA	5 +/- 5*
PW-8	19563.01	TOTAL URANIUM (mg/L)	<0.005

* VARIABILITY OF THE RADIOACTIVE DISINTERGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL IS 1.96 SIGMA AND THE LEVEL OF SIGNIFICANCE MAY EXCEED THAT OF THE REPORTED ANALYTICAL RESULT
pCi/L= PICOCURIES PER LITER
mg/L = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

IENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1956301EX(290)

DATE : 08-20-97

SAMPLE MATRIX : WATER
ATAS # : 19563.01
DATE SUBMITTED: 07-28-97
DATE EXTRACTED: 07-31-97
DATE ANALYZED : 08-01-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : PW-8

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

QA/QC SURROGATE RECOVERY

3,4-DNT(60-140) 107 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

IENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1956301EX(290)

DATE : 08-20-97

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 07-28-97
DATE EXTRACTED: 07-31-97
DATE ANALYZED : 08-01-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

QA/QC SURROGATE RECOVERY

3,4-DNT(60-140) 106 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1956301EX(290)

DATE : 08-20-97

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 07-28-97
DATE EXTRACTED: 07-31-97
DATE ANALYZED : 08-01-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

	LCS % REC.	LCSD % REC.	RPD
HMX	114 %	112 %	2
RDX	101 %	99 %	2
1,3,5-TNB	110 %	109 %	1
TETRYL	62 %	58 %	7
1,3-DNB	108 %	107 %	1
TNT	101 %	100 %	1
NITROBENZENE	129 %	128 %	1
2,6 DNT	105 %	106 %	1
2,4 DNT	95 %	96 %	1
o-NITROTOLUENE	107 %	107 %	0
p-NITROTOLUENE	105 %	104 %	1
m-NITROTOLUENE	118 %	118 %	0

A17

AMERICAN TECHNICAL & ANALYTICAL SERVICES, Inc.

975 Fee Fee Road • Maryland Heights, MO 63043-3211 • Office (314) 434-1570 • FAX (314) 434-0582

PAGE ____ OF ____

CHAIN OF CUSTODY RECORD

ATAS Client Name: STAN REMINGTON

Project Name: WELDON SPRING

Project #:

Form Completed By: SM

PO #:

Sample ID	Sample Date	Sample Time	Sample Matrix	Grab	Comp	No. of Containers	Total U	Gross α	Gross β	Nitrate	TSS						Remarks	Lab Use Only (Initials: LM; Date: 7-28-97; Location: ALBA)
PW-8	7/28/97			X			X	X	X	X							LM 7-28-97	~~19564~~ 01
TREAT. PLANT	"				X						X							19563

Relinquished by:	Received by:	Relinquished by:	Received by:
Signature: [signature]	Signature: Gary Williams	Signature:	Signature:
Printed Name: STAN REMINGTON	Printed Name: Gary Williams	Printed Name:	Printed Name:
Firm: WELDON SPRING	Firm: ATAS	Firm:	Firm:
Date/Time: 7/28/97 10:55	Date/Time: 7/28/97 10:55	Date/Time:	Date/Time:

Turnaround Requirements
- ____ ASAP
- ____ 5 working days
- ____ 10 working days
- ____ 15 working days

Preservative
- A - COLD
- B - HNO_3
- C - H_2SO_4
- D - NaOH
- E - HCl
- F - ____

Temperature: 17°C

SEND RESULTS TO (Name & Company): ____

Original to ATAS/Copy to Client

St. Charles County Water Department
1635 South Highway 94
Defiance, Missouri 63341
(314)-926-9222
Fax 926-8911

JUL-97 Water Sales Report

Date of Report 08/04/97		JULY	YEAR TO DATE
Water Production		537,567,000	2,454,699,000
Washwater Used		9,104,000	48,463,000
Del to System	**Total——**	**528,463,000**	2,406,236,000
Mo. American	Booster Station	375,000,000	
4132835-007	Francis Howell	15,000	
4132850-007	Mo. Hwys Trans.	000	
4133000-004	M. K. Fergusen	902,000	
4133040-015	M. K. Fergusen	450,000	
4133010-002	M. K. Fergusen	1,350,000	
4133020-000	M, K. Fergusen	.000	
4132855-002	Francis Howell	1,279,000	
4132890-009	M. K. Fergusen	441,000	
95018237-000	M. K. Fergusen	000	
4132851-006	Mo. Hwys Trans.	000	
	Total——	**379,040,000**	1,705,221,000
Water Dist. #2	24" East Line	15,465,000	
	24" West Line	101,402,000	
	Bypass	0	
	Total——	**116,867,000**	568,139,000
Water Dist. #2	New Melle		
	Total——	**11,795,000**	51,798,000
National Guard	Blgd S-61	0	
	Wash Rack	2,000	
	Total——	**2,000**	32,000
Water Sales	**********	**507,704,000**	2,331,391,000
Unaccounted for (A:\JULWS97.wpd)	**********	**20,759,000**	74,845,000

Water Department JULY-97 INVENTORY OF CHEMICALS

DATE	INVOICE #	LIME	DATE	INVOICE #	CHLORINE	DATE	INVOICE #	AMMONIA	DATE	INVOICE #	FLUORIDE
BALANCE	06/30/97	**335085**			**4158**			**3080**			**4400**
07/01/97	355568	50180	07/03/97	971277	8000	07/09/97	SS22432	3080	07/03/97	971277	4400
07/03/97	355869	51860	07/09/97	971325	8000	07/22/97	55396	3080	07/14/97	971385	4400
07/08/97	356552	49640	07/19/97	971445	8000	07/28/97	55688	3808	07/19/97	971445	4400
07/10/97	356920	51740	07/29/97	971540	8000				07/29/97	971540	4400
07/15/97	357497	48260									
07/17/97	357898	49280									
07/18/97	206660	49740									
07/23/97	358584	51420									
07/24/97	358988	49740									
07/29/97	359765	51820									
07/31/97	360197	48740									
RECEIVED		**552020**			**32000**			**9240**			**17600**
TOTAL		887505			36158			13048			22000
USED		721728			23330			6415			12909
BALANCE	07/31/97	**165377**			**12828**			**2825**			**4691**
LBS. PER	1000 GALS	1.342			0.043			0.012			0.024
PPM		160.911			5.156			0.42			0.523
AVG. DAY	USAGED	23281.54			752.58			206.93			416.4
YEAR TO	DATE	**3271440**			**128080**			**6415**			**12909**

St. Louis County Department of Health

SAMPLE ANALYSIS REQUEST

Date Received 6-5-97
Results 6-16

ATTENTION: St. Louis County Department of Health
Environmental Health Laboratories

RECEIVED
JUN 18 1997
ST. CHARLES COUNTY HIGHWAY DEPARTMENT

SAMPLE NUMBER: PWSD I.D. 6079507 - St. Charles County Water

DATE COLLECTED: 05-01 to 05-31-97

COLLECTED BY: First Shift Operator

ADDRESS: 1635 South HWY 94
Defiance, MO Zip Code 63341

TELEPHONE NO.: (314) 926-9222 (Plant 447-0510) Thomas Aaron

ANALYSIS REQUESTED: Finish

X GROSS ALPHA X GROSS BETA ____ RA-226 ____ RA-228

____ OTHER (Identify) ____

FOR LABORATORY USE ONLY SCT97-6

RESULTS (pCi/L)		*MDL (pCi/L)
Gross Alpha	<1.0	1.0
Gross Beta	4.5 ± 0.6	1.0
Radium 226		0.1
Radium 228		1.0
Other (Identify)		

6/16/97 JT

Procedure used: Measurement of Radioactivity in Drinking Water
EPA-600/4-80-032

COMMENTS: * MDL is the minimum detectable limit.

ANALYSIS PERFORMED BY: ST. LOUIS COUNTY DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH LABORATORIES
111 So. Meramec - 5th floor
Clayton, MO 63105
(314) 854-6324

ELAB/RAD-WTR/5/96

St. Louis County Department of Health

SAMPLE ANALYSIS REQUEST

Date Received 6-5-97
Results 6-16-

ATTENTION: St. Louis County Department of Health
Environmental Health Laboratories

RECEIVED
JUN 18 1997
ST. CHARLES COUNTY HIGHWAY DEPARTMENT

SAMPLE NUMBER: PWSD I.D. 6079507 - St. Charles County Water

DATE COLLECTED: 05-01 to 05-31-97

COLLECTED BY: First Shift Operator

ADDRESS: 1635 South HWY 94

Defiance, MO Zip Code 63341

TELEPHONE NO.: (314) 926-9222 (Plant 447-0510) Thomas Aaron

ANALYSIS REQUESTED: Raw

X GROSS ALPHA X GROSS BETA ____ RA-226 ____ RA-228

____ OTHER (Identify) ____

FOR LABORATORY USE ONLY SCR97-6

6/16/97

	RESULTS (pCi/L)	*MDL (pCi/L)
Gross Alpha	15 ± 1.2	1.0
Gross Beta	5.4 ± 0.5	1.0
Radium 226		0.1
Radium 228		1.0
Other (Identify)		

Procedure used: Measurement of Radioactivity in Drinking Water
EPA-600/4-80-032

COMMENTS: * MDL is the minimum detectable limit.

ANALYSIS PERFORMED BY: ST. LOUIS COUNTY DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH LABORATORIES
111 So. Meramec - 5th floor
Clayton, MO 63105
(314) 854-6324

ELAB/EAD-WTR/5/96

St. Louis County Department of Health

SAMPLE ANALYSIS REQUEST

Date Received 7-7-97
Results 7-21-97

ATTENTION: St. Louis County Department of Health
Environmental Health Laboratories

RECEIVED
JUL 21 1997
ST. CHARLES COUNTY HIGHWAY DEPARTMENT

SAMPLE NUMBER: PWSD I.D. 6079507 - St. Charles County Water

DATE COLLECTED: 06-01 — 06-30-97

COLLECTED BY: First Shift Operator

ADDRESS: 1635 South HWY 94
Defiance, MO Zip Code 63341

TELEPHONE NO.: (314) 926-9222 (Plant 447-0510) Thomas Aaron

ANALYSIS REQUESTED: RAW

X GROSS ALPHA X GROSS BETA ____ RA-226 ____ RA-228

____ OTHER (Identify) ____

SCR97-7

FOR LABORATORY USE ONLY

	RESULTS (pCi/L)	*MDL (pCi/L)
Gross Alpha	3.1 ± 1.4	1.0
Gross Beta	5.5 ± 1.0	1.0
Radium 226		0.1
Radium 228		1.0
Other (Identify)		

Procedure used: Measurement of Radioactivity in Drinking Water
EPA-600/4-80-032

COMMENTS: * MDL is the minimum detectable limit.

ANALYSIS PERFORMED BY: ST. LOUIS COUNTY DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH LABORATORIES
111 So. Meramec - 5th floor
Clayton, MO 63105
(314) 854-6324

St. Louis County Department of Health

SAMPLE ANALYSIS REQUEST

Date Received 7-7-97
Results 7-21-97

ATTENTION: St. Louis County Department of Health
Environmental Health Laboratories

RECEIVED
JUL 21 1997
ST. CHARLES COUNTY HIGHWAY DEPARTMENT

SAMPLE NUMBER: PWSD I.D. 6079507 - St. Charles County Water

DATE COLLECTED: 06-01 — 06-30-97

COLLECTED BY: First Shift Operator

ADDRESS: 1635 South HWY 94
Defiance, MO Zip Code 63341

TELEPHONE NO.: (314) 926-9222 (Plant 447-0510) Thomas Aaron

ANALYSIS REQUESTED: FINISH

X GROSS ALPHA X GROSS BETA ____ RA-226 ____ RA-228

____ OTHER (Identify) ____

SCT97-7

FOR LABORATORY USE ONLY

7/22/97

RESULTS (pCi/L)		*MDL (pCi/L)
Gross Alpha	< 1.0	1.0
Gross Beta	4.8 ± 1.0	1.0
Radium 226		0.1
Radium 228		1.0
Other (Identify)		

Procedure used: Measurement of Radioactivity in Drinking Water
EPA-600/4-80-032

COMMENTS: * MDL is the minimum detectable limit.

ANALYSIS PERFORMED BY: ST. LOUIS COUNTY DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH LABORATORIES
111 So. Meramec - 5th floor
Clayton, MO 63105
(314) 854-6324

ELAB/RAD-WTR/5/96

Joe R. Nichols

County Engineer - Water Dept.

St. Charles County

August 5, 1997

Mr. Stanley M. Remington
956 Broadmoor Lane
St. Charles, Mo. 63301

RE: Sample Analysis
St. Charles County Water Plant

Dear Stanley,

Enclosed for your review and report, please find laboratory test results for gross alpha and gross beta for the raw and finished water taken at the Water Plant for the period 5/1/97 to 5/31/97 and 6/1/97 to 6/30/97.

Please advise if you have any comments.

Sincerely,

Joe R. Nichols
County Engineer

JRN/cia
Enclosure

cc: Mr. Tom Engle, Director of Administration
Mr. Tom Aaron, Water Department Superintendent

o:\hiway\water\stlcosample

201 North Second Street • Suite 429 • Saint Charles, Missouri 63301-2874
314-949-7305 • Fax 314-949-7307

MONTHLY REPORT

SEPTEMBER 1997

BY

Stanley Remington

Consulting Hydrologist

I. CHEMICAL ANALYSIS

The treated sample from the quarry batch number 50 was analyzed on September 11, 1997. The results are appended. The results showed that all hazardous chemicals were removed in the processing of the quarry water. The batch was later discharged into the Missouri River.

On August 18, 1997 well PW-2 was tested for radioactive parameters and nitroaromatics, shown as explosives. The results show that no explosives were present and the radioactive elements were all well below NPDES limits. The results are appended.

On September 18, 1997 I sampled wells RMW-2 and PW-8 with the Department of Energy. These were the quarterly samples which included chemical parameters not sampled during my monthly sampling. These results have not yet been received.

II. FUTURE PLANS

I will sample RMW-3 around the middle of October 1997. The annual St. Louis Regional Environmental Conference is being held on October 23, 1997 at the Adam's Mark Hotel in St. Louis. I intend to go to this conference in the so-called "Water Breakout". This means environmental problems in surface and ground water will be discussed.

III. MISCELLANEOUS

Enclosed is the St. Charles Water Department Monthly Water Sales Report for the month of August 1997. Also enclosed is the Sample Analysis Request from the

St. Charles Water Department to the St. Louis County Department of Health for the analyses of radioactive parameters for the raw and finished waters at the water treatment plant at Weldon Spring. Results of the analyses showed that these parameters were well within NPDES limits.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

September 11, 1997

Stanley M. Remington
956 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #19741.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on August 18, 1997.

If, in your review, you should have any questions or require additional information, please call Ruseal Brewer, Assistant Project Manager, or me at (314) 434-4570.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Ruseal Brewer

Jeffrey A. Carr
Project Manager

Enclosures

JAC/jp

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 · FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1974101RA(294)

DATE : 09-11-97

SAMPLE MATRIX : WATER
ATAS EPISODE : #19741
DATE SUBMITTED: 08-18-97
PROJECT REF. : WELDON SPRING

RESULTS REPORTED IN pCi/L

CLIENT ID	ATAS ID	RADIONUCLIDE	RESULT
PW-2	19741.01	GROSS ALPHA	0.575 +/- 0.961*
PW-2	19741.01	GROSS BETA	7.00 +/- 1.56*
PW-2	19741.01	TOTAL URANIUM	2.18 +/- 0.838*

* VARIABILITY OF THE RADIOACTIVE DISINTERGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
pCi/L = PICOCURIES PER LITER

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1974101EX(294)

DATE : 09-11-97

SAMPLE MATRIX : WATER
ATAS # : 19741.01
DATE SUBMITTED: 08-18-97
DATE EXTRACTED: 08-22-97
DATE ANALYZED : 08-22-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : PW-2

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

SURROGATE RECOVERY

3,4-DNT 114 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 · FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1974101EX(294)

DATE : 09-11-97

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 08-18-97
DATE EXTRACTED: 08-21-97
DATE ANALYZED : 08-21-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

SURROGATE RECOVERY

3,4-DNT 115 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 · FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1974101EX(294)

DATE : 09-11-97

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 08-18-97
DATE EXTRACTED: 08-21-97
DATE ANALYZED : 08-22-97
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

	LCS % REC.	LCSD % REC.	RPD
HMX	104 %	105 %	1
RDX	114 %	115 %	1
1,3,5-TNB	112 %	112 %	0
TETRYL	135 % *	136 % *	1
1,3-DNB	114 %	115 %	1
TNT	111 %	112 %	1
NITROBENZENE	111 %	112 %	1
2,6 DNT	105 %	106 %	1
2,4 DNT	100 %	101 %	1
o-NITROTOLUENE	110 %	108 %	2
p-NITROTOLUENE	115 %	113 %	2
m-NITROTOLUENE	119 %	117 %	2

* = OUTSIDE QC ADVISORY LIMITS

ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, Inc.

875 Fee Fee Road • Maryland Heights, MO 63043-3211 • Office (314) 434-4570 • FAX (314) 434-0080

PAGE ____ OF ____

CHAIN OF CUSTODY RECORD

ATAS Client Name: STAN REMINGTON

Project Name: WELDON SPRING

Project #:

Form Completed By: [illegible]

PO #:

Sample ID	Sample Date	Sample Time	Sample Matrix	Grab	Comp	No. of Containers	Total U	Gross α	Gross β	Nitros	TSS						Remarks	Lab Use Only (Initials: LM, Date: 8-18-97, Location: LA)
PW-2	8/18/97			X			X	X	X	X								19741.01
TREAT PLANT	"				X						X							

Relinquished by:	Received by:	Relinquished by:	Received by:
Signature: [illegible]	Signature: [illegible]	Signature:	Signature:
Printed Name: STAN REMINGTON	Printed Name: L. MASSENBERG	Printed Name:	Printed Name:
Firm: WELDON SPRING	Firm: ATAS	Firm:	Firm:
Date/Time: 8/18/97 0955	Date/Time: 8-18-97 0955	Date/Time:	Date/Time:

Turnaround Requirements
- ____ ASAP
- ____ 5 working days
- ____ 10 working days
- ____ 15 working days

Preservative
- A - COLD
- B - HNO_3
- C - H_2SO_4
- D - NaOH
- E - HCl
- F - ____

Temperature: 14C

SEND RESULTS TO (Name & Company): ____

Original to ATAS/Copy to Client

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

September 30, 1997

Stanley M. Remington
956 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #19960.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on September 11, 1997.

If, in your review, you should have any questions or require additional information, please call Ruseal Brewer, Assistant Project Manager, or me at (314) 434-4570.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Ruseal Brewer
for

Jeffrey A. Carr
Project Manager

Enclosures

JAC/jp

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1996001MT(297)

DATE : 09-30-97

SAMPLE MATRIX : WATER
ATAS # : 19960.01
DATE SUBMITTED: 09-11-97
PROJECT : WELDON SPRING
SAMPLE ID : NP-EQ12-091197-C

PARAMETER	REPORTING LIMIT	UNITS	RESULTS	DATE ANALYZED	METHOD REFERENCE
			INORGANICS		
NITRATE	0.2	mg/L	ND	09-24-97	SM 418B
			METALS		
ARSENIC	10.0	ug/L	ND	09-29-97	SW 6010
CHROMIUM	5.0	ug/L	ND	09-29-97	SW 6010
LEAD	3.0	ug/L	ND	09-29-97	SW 6010
MANGANESE	3.0	ug/L	7.8	09-29-97	SW 6010
MERCURY	0.20	ug/L	ND	09-25-97	SW 7470
SELENIUM	5.0	ug/L	ND	09-29-97	SW 6010

ug/L = PARTS PER BILLION(PPB)
mg/L = PARTS PER MILLION(PPM)
ND = NOT DETECTED ABOVE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 · FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1996001MT(297)

DATE : 09-30-97

QA/QC

DESCRIPTION		PARAMETER	RESULTS	
METHOD BLANK	09-14-97	NITRATE	<0.2	mg/L
METHOD BLANK	09-29-97	ARSENIC	<10.0	ug/L
METHOD BLANK	09-29-97	CHROMIUM	<5.0	ug/L
METHOD BLANK	09-29-97	LEAD	<3.0	ug/L
METHOD BLANK	09-29-97	MANGANESE	<3.0	ug/L
METHOD BLANK	09-25-97	MERCURY	<0.2	ug/L
METHOD BLANK	09-29-97	SELENIUM	<5.0	ug/L
CONTROL SPIKE	09-14-97	NITRATE	99 %	RECOVERY
CONTROL SPIKE	09-29-97	ARSENIC	99 %	RECOVERY
CONTROL SPIKE	09-29-97	CHROMIUM	96 %	RECOVERY
CONTROL SPIKE	09-29-97	LEAD	96 %	RECOVERY
CONTROL SPIKE	09-29-97	MANGANESE	97 %	RECOVERY
CONTROL SPIKE	09-25-97	MERCURY	90 %	RECOVERY
CONTROL SPIKE	09-29-97	SELENIUM	92 %	RECOVERY

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1996001RA(297)

DATE : 09-18-97

SAMPLE MATRIX : WATER
ATAS EPISODE : #19960
DATE SUBMITTED: 09-11-97
PROJECT REF. : WELDON SPRING

RESULTS REPORTED IN pCi/L (UNLESS NOTED)

CLIENT ID	ATAS ID	RADIONUCLIDE	RESULT
NP-EQ12-091197-C	19960.01	GROSS ALPHA	2 +/- 2*
NP-EQ12-091197-C	19960.01	GROSS BETA	5 +/- 4*
NP-EQ12-091197-C	19960.01	TOTAL URANIUM (mg/L)	0.0005

* GROSS ALPHA RESULTS ARE BASED ON AN AM-241 ABSORPTION CURVE.
* GROSS BETA RESULTS ARE BASED ON A CS-137 ABSORPTION CURVE.
VARIABILITY OF THE RADIOACTIVE DISINTERGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL IS 1.96 SIGMA AND THE LEVEL OF SIGNIFICANCE MAY EXCEED THAT OF THE REPORTED ANALYTICAL RESULT.
pCi/L = PICOCURIES PER LITER
mg/L = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1996001EX(297)

DATE : 09-18-97

SAMPLE MATRIX : WATER
ATAS # : 19960.01
DATE SUBMITTED: 09-11-97
DATE EXTRACTED: 09-12-97
DATE ANALYZED : 09-15-97
METHOD REF. : SW846-8090, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : NP-EQ12-091197-C

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
2,6 DNT	0.010	ND
2,4 DNT	0.020	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150)	97 %
TETRACHLORO-M-XYLENE(30-150)	59 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1996001EX(297)

DATE : 09-18-97

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 09-11-97
DATE EXTRACTED: 09-12-97
DATE ANALYZED : 09-15-97
METHOD REF. : SW846-8090, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
2,6 DNT	0.010	ND
2,4 DNT	0.020	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150)	74 %
TETRACHLORO-M-XYLENE(30-150)	63 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
956 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1996001EX(297)

DATE : 09-18-97

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 09-11-97
DATE EXTRACTED: 09-12-97
DATE ANALYZED : 09-15-97
METHOD REF. : SW846-8090, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

	LCS % REC.	LCSD % REC.	RPD
2,6 DNT	111	86	25
2,4 DNT	83	77	8

C

ENVIRONMENTAL SAMPLE CHAIN-OF-CUSTODY / AUTHORIZATION FORM

WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSRAP)
7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63304
TELEPHONE (314) 441-8086 TELEX (314) 447-0803

ES&H 4.1.3.1, Rev.6, Effective 11/93

Validation Documentation ☐

WSSRAP Contact:
Phone Number:
Request Number:

Lab/P.O. #: Dept./Cost Code:
Requisitioner: St. Charles
Turnaround Time: ☐ Standard ☐ Accelerated ☐ Priority ☐ Urgent ☐ Emergency

#	Sample ID	QC	Date Sampled	Matrix	Cont.	Preserv.	Parameters	LM 9-11-97 ID4-ACL-BA	Arch. (Y/N)
1	NP-EQ12-091197-C		9/11/97	Water	1-1 liter	HNO3	As,Cr,Hg,Mn,Se,Pb	19960.01	N
					1-1 liter glass	Ice	2,4-DNT	↓	
					1-1 liter	H2SO4	NO3	↓	
					1-4 liter	HNO3	U, Gross alpha, Gross beta	↓	

Sampler's Signature: E. Daniels
Checked By:
Technical Reviewer:

Relinquished By	Received By	Date	Time	Reason for Transfer	Seal Intact? (Y/N)	Cooler Temp
E. Daniels	[illegible]	9/11/97	1200			
[illegible]	[illegible]	9/11/97	1245			

AUTHORIZATION

KC-F Procurement — Date
ES&H — Date
Site Shipping Officer — Date

St. Louis County Department of Health

SAMPLE ANALYSIS REQUEST

Results 8-21-97

Date Received 08-05-97

ATTENTION: St. Louis County Department of Health
Environmental Health Laboratories

RECEIVED
AUG 25 1997
ST. CHARLES COUNTY HIGHWAY DEPARTMENT

SAMPLE NUMBER: PWSD I.D. 6079507 - St. Charles County Water

DATE COLLECTED: 7-01 - 7-31-97

COLLECTED BY: First Shift Operator

ADDRESS: 1635 South HWY 94

Defiance, MO Zip Code 63341

TELEPHONE NO.: (314) 926-9222 (Plant 447-0510) Thomas Aaron

ANALYSIS REQUESTED: RAW

X GROSS ALPHA X GROSS BETA ____ RA-226 ____ RA-228

____ OTHER (Identify) ____

FOR LABORATORY USE ONLY SCR97-8

	RESULTS (pCi/L)	*MDL (pCi/L) 8/20/97
Gross Alpha	3.6 ± 1.6	1.0
Gross Beta	5.1 ± 1.0	1.0
Radium 226		0.1
Radium 228		1.0
Other (Identify)		

Procedure used: Measurement of Radioactivity in Drinking Water
EPA-600/4-80-032

COMMENTS: * MDL is the minimum detectable limit.

ANALYSIS PERFORMED BY: ST. LOUIS COUNTY DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH LABORATORIES
111 So. Meramec - 5th floor
Clayton, MO 63105
(314) 854-6324

ELAB/RAD-WTR/SW

Results 8-21-97

St. Louis County Department of Health

SAMPLE ANALYSIS REQUEST

Date Received 08-05-97

RECEIVED
AUG 25 1997
ST. CHARLES COUNTY HIGHWAY DEPARTMENT

ATTENTION: St. Louis County Department of Health
Environmental Health Laboratories

SAMPLE NUMBER: PWSD I.D. 6079507 - St. Charles County Water

DATE COLLECTED: 07-01 — 07-31-97

COLLECTED BY: First Shift Operator

ADDRESS: 1635 South HWY 94

Defiance, MO Zip Code 63341

TELEPHONE NO.: (314) 926-9222 (Plant 447-0510) Thomas Aaron

ANALYSIS REQUESTED: Finish

X GROSS ALPHA X GROSS BETA ____ RA-226 ____ RA-228

____ OTHER (Identify) ____

FOR LABORATORY USE ONLY SCT97-8

	RESULTS (pCi/L)	*MDL (pCi/L)
Gross Alpha	2.4 ± 1.3	1.0
Gross Beta	4.4 ± 1.0	1.0
Radium 226		0.1
Radium 228		1.0
Other (Identify)		

8/20/97

Procedure used: Measurement of Radioactivity in Drinking Water
EPA-600/4-80-032

COMMENTS: * MDL is the minimum detectable limit.

ANALYSIS PERFORMED BY: ST. LOUIS COUNTY DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH LABORATORIES
111 So. Meramec - 5th floor
Clayton, MO 63105
(314) 854-6324

RLAB/RAD-WTR/SPM

St. Charles County Water Department
1635 South Highway 94
Defiance, Missouri 63341
(314)-926-9222
Fax 926-8911

AUG-97 Water Sales Report

Date of Report 09/02/97		AUGUST	YEAR TO DATE
Water Production		417,373,000	2,864,788,000
Washwater Used		7,178,000	55,641,000
Del to System	Total———	410,195,000	2,809,147,000
Mo. American	Booster Station	283,243,000	
4132835-007	Francis Howell	31,000	
4132850-007	Mo. Hwys Trans.	2,400	
4133000-004	M. K. Fergusen	1,449,000	
4133040-015	M. K. Fergusen	93,000	
4133010-002	M. K. Fergusen	306,500	
4133020-000	M, K. Fergusen	1,000	
4132855-002	Francis Howell	674,000	
4132890-009	M. K. Fergusen	114,000	
95018237-000	M. K. Fergusen	65,000	
4132851-006	Mo. Hwys Trans.	300	
	Total———	285,980,000	1,991,201,000
Water Dist. #2	24" East Line	46,403,000	
	24" West Line	50,260,000	
	Bypass	0	
	Total———	96,663,000	664,802,000
Water Dist. #2	New Melle		
	Total———	10,846,000	62,644,000
National Guard	Blgd S-61	10,000	
	Wash Rack	1,000	
	Total———	11,000	43,000
Water Sales	**********	393,500,000	2,724,891,000
Unaccounted for (A:AUGWS97.wpd)	**********	16,695,000	91,540,000

Water Department

AUGUST 1997

INVENTORY OF CHEMICALS

DATE	INVOICE #	LIME	DATE	INVOICE #	CHLORINE	DATE	INVOICE #	AMMONIA	DATE	INVOICE #	FLUORIDE
BALANCE	07/31/97	164943			12778			2825			4691
08/01/97	360346	50320	08/13/97	971164	8000	08/05/97	56693	3080	08/06/97	971609	4400
08/04/97	360843	49180	08/25/97	971756	8000	08/12/97	57337	3080	08/13/97	971665	4400
08/05/97	360954	49640				08/25/97	58580	3080	08/25/97	971757	4400
08/06/97	361133	49240									
08/07/97	361269	49220									
08/08/97	361531	49280									
08/12/97	362198	50000									
08/14/97	362518	50520									
08/19/97	363274	48160									
08/21/97	363677	48260									
08/26/97	364519	48380									
08/28/97	365001	49260									
RECEIVED		591460	RECEIVED		16000	RECEIVED		9240	RECEIVED		13200
TOTAL		756403	TOTAL		28778	TOTAL		12065	TOTAL		17891
USED		-571574	USED		-16950	USED		-8259	USED		-11606
BALANCE		184829	BALANCE		11828	BALANCE		3806	BALANCE		6285
LBS. PER		1.39	LBS. PER		0.041	LBS. PER		0.02	LBS. PER		0.028
PPM		167	PPM		4.92	PPM		0.7	PPM		0.62
AVG. DAY	USAGED	18437.8	AVG. DAY	USAGED	546.8	AVG. DAY	USAGED	266.4	AVG. DAY	USAGED	374.4
YEAR TO	DATE	3843014	YEAR TO	DATE	145030	YEAR TO	DATE	- 14674	YEAR TO	DATE	24515

DATE	INVOICE #	GAS
BALANCE	07/31/97	267.9
08/18/97	244	406
RECEIVED		406
TOTAL		673.9
USED		-365.9
BALANCE		308

QY-200-202-1.21