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WSRC-TR-92-559

FOUR MILE CREEK SEMI-ANNUAL SAMPLING REPORT JULY 1992 SAMPLING EVENT (U)

by WSRC Contact - K. L. Dixon

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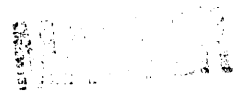
WSRC-TR--92-559

DE93 006326



D. B. Moore-Shedrow, Section Manager
Authorized Derivative Classifier

Submitted to:
Westinghouse Savannah River Company
Aiken, South Carolina

Four Mile Creek
Semi-Annual Sampling Report
July 1992 Sampling Event

Contract No. AA46327P
Task No. 26

October 1992

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1.0 INTRODUCTION

From 1955 to 1988 low-level radioactive wastewater generated by chemical separation processes within the General Separations Area (GSA) were discharged to seepage basins in the F and H Areas of the Savannah River Site (SRS). These basins were designed to permit the infiltration of the process wastewaters. As wastewater percolated downward through the basins, chemical and radioactive constituents were retained or delayed in the subsoils.

An extensive study aimed at characterizing the groundwater seeping into Four Mile Creek and its associated seepline was conducted in 1988 and 1989 (Haselow et al. 1990). Results of this study suggested that contaminants leaching from the F and H Area seepage basins were impacting the Four Mile Creek wetland system. The seepage basins were closed in 1988 and capped and sealed in 1990. This effectively eliminated the hydraulic head driving the migration of contaminants from the basins. It has been hypothesized that, after the elimination of the head, annual rainfall amounts would be sufficient to dilute and flush out contaminants remaining in the subsoils and groundwaters beneath the basins. Westinghouse Savannah River Company has designed a semi-annual sampling and analytical program for the Four Mile Creek (FMC) seepline and stream water to test the hypothesis.

Twelve (12) seepline water and four (4) stream water sampling locations are included in the semi-annual monitoring. These sampling locations include three (3) background locations. Sampling locations were selected by WSRC based on previous sampling results. Sampling location numbers and SRS coordinates are presented in Table 1.1.

The first of the three scheduled semi-annual sampling events took place from July 20, 1992 through July 29, 1992. This report summarizes the results of the field monitoring obtained during this event and presents a brief comparison to previous data.

2.0 EXPERIMENTAL METHODS

2.1 Mobilization

Labeled sample bottles, with preservatives added as necessary, "blue ice", and coolers were provided by the following pairs of subcontracted analytical laboratories: General Engineering Laboratories (non-radiological analyses)/Environmental Physics(radiological analyses); and Roy F. Weston (non-radiological analyses)/Clemson Technical Center(radiological analyses). Additional bottles for on-site analysis of total activity were supplied by the WSRC-EMS Radiological Laboratory. WSRC provided chain-of-custody forms and packaging materials.

Table 1.1. Sample Location Numbers and SRS Coordinates

Seepline	SRS Coordinates	
	North	East
H-Area		
HSP008	71005	56990
HSP029	71278	56257
HSP043	71644	55722
HSP060	71629	55190
HSP092	72672	54129
F-Area		
FSP012	73602	49644
FSP032	73367	50258
FSP047	73609	50607
FSP204	73281	48801
FSP290	73160	46865
Background[1]		
BG001	Seepline	
BG002	Seepline	
BG003	Stream water	
Stream Sites		
FMC0001H	70350	57050
FMC0002H	72600	53000
FMC0001F	72200	43900

[1] The locations of background samples were within the grid identified by Site Use Grid Maps 13 and 14 as 71750 N and 40000 E and 70000 E. The exact location was identified by ESS technical personnel.

The sample bottles needed for one day of sampling were separated by station and carried to the sampling station.

2.1.1 Equipment List

The following equipment was used during seepline groundwater sampling:

Rubber gloves
Safety glasses
Clipboard, waterproof pens, waterproof markers
Field data logbook
Chain-of-custody forms
Shipping Orders
Samples bottles
Backpacks
Shovel, post-hole digger, hatchet or axe
Peristaltic pump
Paper and cloth towels
Ziplock bags
Coolers with cool packs
Bubble Pack
Sampling buckets (5-gallon) with lids
Water quality meters (pH, conductivity, redox)
Silicone (Silastic) tubing
1 one-liter Nalgene bottle for each station sampled
0.45 micron filters and filtering equipment
Tyvek Aprons

The following equipment was used during stream water sampling:

Rubber gloves
Safety glasses
Clipboard, waterproof pens, waterproof markers
Field data logbook
Chain-of-custody forms
Shipping orders
Sample bottles
Backpacks
Paper and cloth towels

Ziplock bags
Coolers with cool packs
Bubble Pack
Water quality meters (pH, conductivity, redox)
1 one-liter Nalgene bottle for each station sampled
0.45 micron filters and filtering equipment
Life jackets
Hip Boots
Tyvek Aprons

2.1.2 Decontamination Procedures

Cleaning and decontamination procedures for all sampling equipment are outlined below. All sampler parts were decontaminated prior to the collection of each sample.

Sampling equipment was first cleaned with Milli-Q water and phosphate-free laboratory detergent (Liquinox) using a brush if necessary to remove particulate matter and surface films. The equipment was then rinsed thoroughly with Milli-Q water. Finally, the equipment was rinsed two times with pesticide-grade methanol solvent and allow to air dry. The dry equipment was wrapped with aluminum foil, when necessary, to prevent contamination during storage or transport.

All decontamination rinse waters were discharged to the ground. The methanol was collected in a pan and allowed to evaporate.

2.2 Sample Collection Procedures

2.2.1 Groundwater

All sample locations had been permanently marked by WSRC with a 1" schedule 40 PVC stake driven 2 feet below grade. An identification number was written on each PVC stake.

After locating the sampling station, the sampling crew excavated a hole using a decontaminated stainless steel shovel. The hole was excavated within a 3 foot radius of the PVC stake. Water was encountered in each hole at the depths indicated in Table 2.1. The sampling bucket was placed into the hole and covered with a lid. One bucket was set at each location except locations HSP008, HSP043, FSP047 and FSP290 where two buckets were set. The additional bucket was needed in order to collect sufficient water for duplicate and QA samples.

Table 2.1. Depth Water Encountered

LOCATION	WATER DEPTH
H-Area	
HSP008	8 inches
HSP029	2 inches
HSP043	2 feet
HSP060	2 inches
HSP092	1.5 feet
F-Area	
FSP012	2 feet
FSP032	8 inches
FSP047	Data not available
FSP204	Surface
FSP290	1 foot
Background	
BG001	7 inches
BG002	8 inches

The buckets were set out one day prior to sample collection in order to allow the sediment in the water to settle. The time between setting the bucket and sample collection was recorded in the field notebook.

The 40 ml GCMS/VOA vials and the 1-liter sample bottle, for water to be filtered for metals analysis, were filled first by dipping them into the bucket. This was done in such a manner as to avoid disturbance of the sediment. The VOA vial was filled completely so that no air bubbles were present in the sample.

The remaining samples were collected by pumping the water from the bucket to the remaining sample jars through silastic (silicone) tubing using a peristaltic pump powered by a 12-volt battery. New tubing was used for each sample location. The new tubing was flushed for 20 seconds with water from the bucket before the sampling crew collected the sample.

Samples collected for metals analysis were filtered in the field through a 0.45 micron membrane filter (to remove fine particulate matter from the water being analyzed). This filtering occurred within 4 hours of sample collection. The filtering apparatus was flushed with deionized or distilled water between filtering each sample.

Samples collected on July 22, 1992 were very turbid, possibly due to a rainfall event that occurred the previous evening. The turbidity caused filtering problems and increased field processing time. As a result, the field crew collected approximately one half the volume of water required for metals analysis for the duplicate sample at station HSP043 and were unable to collect the metals sample for QA-1S.

The pH, conductivity, and redox potential of the water at each location were measured at the time of sampling. These readings were taken directly from the water collected in the 5 gallon bucket and recorded in the field data logbook. The probes were rinsed with DI water prior to taking these measurements.

Blue ice was used to keep the samples cool from the time of sampling until they were received at the analytical laboratory.

At each sampling location, a 250 ml plastic sample container was filled with the water and sent to the WSRC EMS Radiological Laboratory to determine the total activity in the samples. These data were used to determine the packaging and shipping requirements of the specific samples.

Duplicate samples were collected at both HSP043 and FSP047 and sent to General

Engineering/Environmental Physics and Roy F. Weston/Clemson for QA/QC purposes. A triplicate sample was collected from HSP008. This triplicate sample consisted of HSP008 sent to General Engineering/Environmental Physics; QA-1S sent to General Engineering/Environmental Physics and QA-1S sent to Roy F. Weston/Clemson. A triplicate sample was collected from FSP290. This triplicate sample consisted of FSP290 sent to General Engineering/Environmental Physics; QA-3S sent to General Engineering/Environmental Physics and QA-3S sent to Roy F. Weston/Clemson.

Two trip blanks were included for the semi-annual sampling event (QA-2S and QA-4S).

Two equipment rinsate samples (QA-3 and QA-4) were collected on July 27, 1992.

Two samples of Milli-Q water, one from the source (QA-1) and one from the field carboy (QA-2), were collected on July 27, 1992 and sent to General Engineering.

At the end of each day, the samples were transported to the Health Protection office in the Central Shops area where the outside of the containers were scanned for radioactivity. The purpose of this scan was to identify any radiological health hazards associated with handling the samples. The samples were then transported to the laboratory at 704B where they remained until cleared for shipment.

2.2.2 Surface Water Sampling

Collection of the surface water samples was performed by dipping the sample container directly into the stream water. This collection method minimizes alteration of the sample. Also, the potential for sample cross contamination through the use of poorly decontaminated sampling equipment is eliminated. Sampling personnel wore hip boots and gloves to minimize exposure to potential contaminants.

The sample bottles to be used at each location were removed from the coolers and the bottle labels were completed with waterproof markers or ball point pens.

Surface grab samples were collected in the middle of the stream from the top of the water column. The container was placed into the water with the mouth of the container facing upstream such that water flowed directly into the container. Care was taken when opening and filling the bottles since some of the bottles contained carefully measured amounts of chemical preservatives.

All containers, except the VOA vials, were filled to the shoulder with water. VOA vials were

filled completely and capped so that no air bubbles were present in the sample. Water collected for metals analysis was filtered in the field prior to preservation. The filled sample containers were capped tightly and placed in a plastic ziplock bag. The samples were placed in coolers and kept cool.

The in-situ pH, conductivity and redox potential of the stream was measured and recorded in field notebook.

Evidence of sample collection, shipment, laboratory receipt and laboratory custody until sample disposal must be documented to ensure the sample traceability scheme. Documentation was accomplished through a chain-of-custody record that contains the necessary information for individual sample identification and lists the individuals responsible for sample collection, shipment, and receipt along with necessary signatures and dates. Completed chain-of-custody forms for this sampling event are presented in Appendix A.

3.0 RESULTS

The pH, conductivity, and redox potential measurements collected in the field are summarized in Table 3.1. The pH readings for the H-Area seepline samples ranged from 4.80 to 6.32 with an average value of 5.72. The pH readings for the F-Area seepline samples ranged from 4.10 to 5.38 with an average value of 4.96. The average pH of the background seepline samples was 4.91. The conductivity readings for the seepline samples in the H-Area ranged from 33 µmhos/cm to 237 µmhos/cm with an average value of 139 µmhos/cm. The conductivity readings for the seepline samples in the F-Area ranged from 46 µmhos/cm to 277 µmhos/cm with an average value of 122 µmhos/cm. The average conductivity of the background seepline samples was 30 µmhos/cm. The redox potential readings for the seepline samples in the H-Area ranged from 107 mV to 205 mV with an average value of 158 mV. The redox potential readings for the seepline samples in the F-Area ranged from 53 mV to 227 mV with an average value of 148 mV. The average redox potential of the background seepline samples was 200 mV.

The pH readings for the stream samples ranged from 6.67 to 7.19 with an average value of 6.87. The pH of the background stream sample was 5.80. The conductivity readings for the stream samples ranged from 70 µmhos/cm to 94 µmhos/cm with an average value of 83 µmhos/cm. The conductivity of the background stream sample was 20 µmhos/cm. The redox potential readings for the stream samples ranged from 136 mV to 178 mV with an average value of 150 mV. The redox potential of the background stream sample was -13 mV.

Table 3.1. Water Quality Parameters Measured in the Field Four Mile Creek Seepline and Stream Water

Station	Date Sampled	Time Sampled	SRS Coordinates North	SRS Coordinates East	pH (pH units)	Conductivity (umhos/cm)	Redox (mV)
H-AREA							
HSP008	7/23/92	9:30	71005	56990	6.32	237	195
HSP029	7/21/92	12:30	71278	56257	4.80	97	205
HSP043	7/23/92	11:45	71644	55722	5.73	155	175
HSP060	7/21/92	not recorded	71629	55190	6.07	173	107
HSP092	7/21/92	10:47	72672	54129	5.68	33	110
Average					5.72	139	158
F-AREA							
FSP012	7/28/92	11:45	73602	49644	5.14	106	53
FSP032	7/28/92	10:30	73367	50258	4.10	95	227
FSP047	7/28/92	9:00	73609	50607	5.38	88	120
FSP204	7/28/92	11:30	73281	48801	5.35	277	180
FSP290	7/29/92	9:30	73160	46865	4.83	46	160
Average					4.96	122	148
BACKGROUND							
BG001	7/29/92	11:30			4.82	21	265
BG002	7/29/92	12:00			5.00	38	135
*BG003	7/22/92	11:26			5.80	20	-13
Average (BG001 AND BG002)					4.91	30	200
STREAM SITES							
FMC001H	7/22/92	12:20	70350	57050	7.19	86	178
FMC002H	7/22/92	10:30	72600	53000	6.67	94	136
FMC001F	7/22/92	9:48	72200	43900	6.75	70	136
Average					6.87	83	150

* Stream Site

The conductivity and pH of the seepline water was measured previously in March of 1989 (Haselow et al., 1990) and in May of 1992 (Dixon et al., 1992). A summary of this previous data and the current data is presented in Tables 4.1 and 4.2 and shown graphically in Figures 4-1 through 4-4.

Figures 4-1 and 4-2 illustrate the conductivity measurements collected from the H-Area and the F-Area, respectively. A general trend of decreasing conductivity is evident in the H-Area. This decreasing trend is not seen in the F-Area. The conductivity measurements at sample locations FSP032 and FSP204 in the F-Area show a decreasing trend in conductivity. The measurements at sample location FSP012 show an increasing trend The measurements at sample locations FSP047 and FSP290 show no decreasing or increasing trend. The average background conductivity of the seepline water collected during this sampling event was 29.5 μmhos/cm. Ninety-six percent of the data presented in Table 4.1 exceeds this background conductivity value.

Figures 4-3 and 4-4 illustrate the pH measurements collected from the H-Area and the F-Area, respectively. No specific trend is evident in either of these figures. The average background pH of the seepline water collected during this sampling event was 4.91. Sixty-five percent of the data presented in Table 4.2 has a pH measurement which is greater than 4.91.

The background stream measurement for pH (5.80) and conductivity (20 umhos/cm) was exceeded in all of the downgradient stream samples.

There is no historical data available on redox potential, thus, we can not assess any possible trends at this time. However, the average background redox potential of the seepline water collected during this sampling event was 200 mV. Twenty percent of the data presented in Table 3.1 has a redox potential measurement which is greater than 200 mV. The redox potential of the background stream water was -13 mV. The redox potential of the down stream sites were significantly higher than -13 mV.

Metcalf & Eddy conducted a surveillance of the sampling procedures to verify that sampling was being conducted in accordance with the approved task specific Quality Assurance Project Plan. The results of this surveillance is provided in Appendix B.

4.0 CONCLUSIONS

The average pH and conductivity values measured during this field event for the F-Area seepline samples, the H-Area seepline samples, and the stream samples are higher than the

(text continued on p16)

TABLE 4.1. SUMMARY OF CONDUCTIVITY MEASUREMENTS

H-AREA	CONDUCTIVITY (umhos/cm)				
	HSP008	HSP029	HSP043	HSP060	HSP092
Mar-89	556	257	413	473	ND
May-92	334	234	294	274	ND
Jul-92	237	97	155	173	33

F-AREA	CONDUCTIVITY (umhos/cm)				
	FSP012	FSP032	FSP047	FSP204	FSP290
Mar-89	30	174	52	895	49
May-92	58	138	125	311	28
Jul-92	106	95	88	277	46

TABLE 4.2. SUMMARY OF pH MEASUREMENTS

H-AREA	pH				
	HSP008	HSP029	HSP043	HSP060	HSP092
Mar-89	5.7	5.2	5.3	5.9	ND
May-92	5.6	6.1	6.2	5.6	ND
Jul-92	6.32	4.8	5.73	6.07	5.68

F-AREA	pH				
	FSP012	FSP032	FSP047	FSP204	FSP290
Mar-89	5.3	5	4.7	4.4	3.6
May-92	5.4	4.3	4.6	4.4	4.8
Jul-92	5.14	4.1	5.38	5.35	4.83

FIGURE 4-1. CONDUCTIVITY MEASUREMENTS IN H-AREA

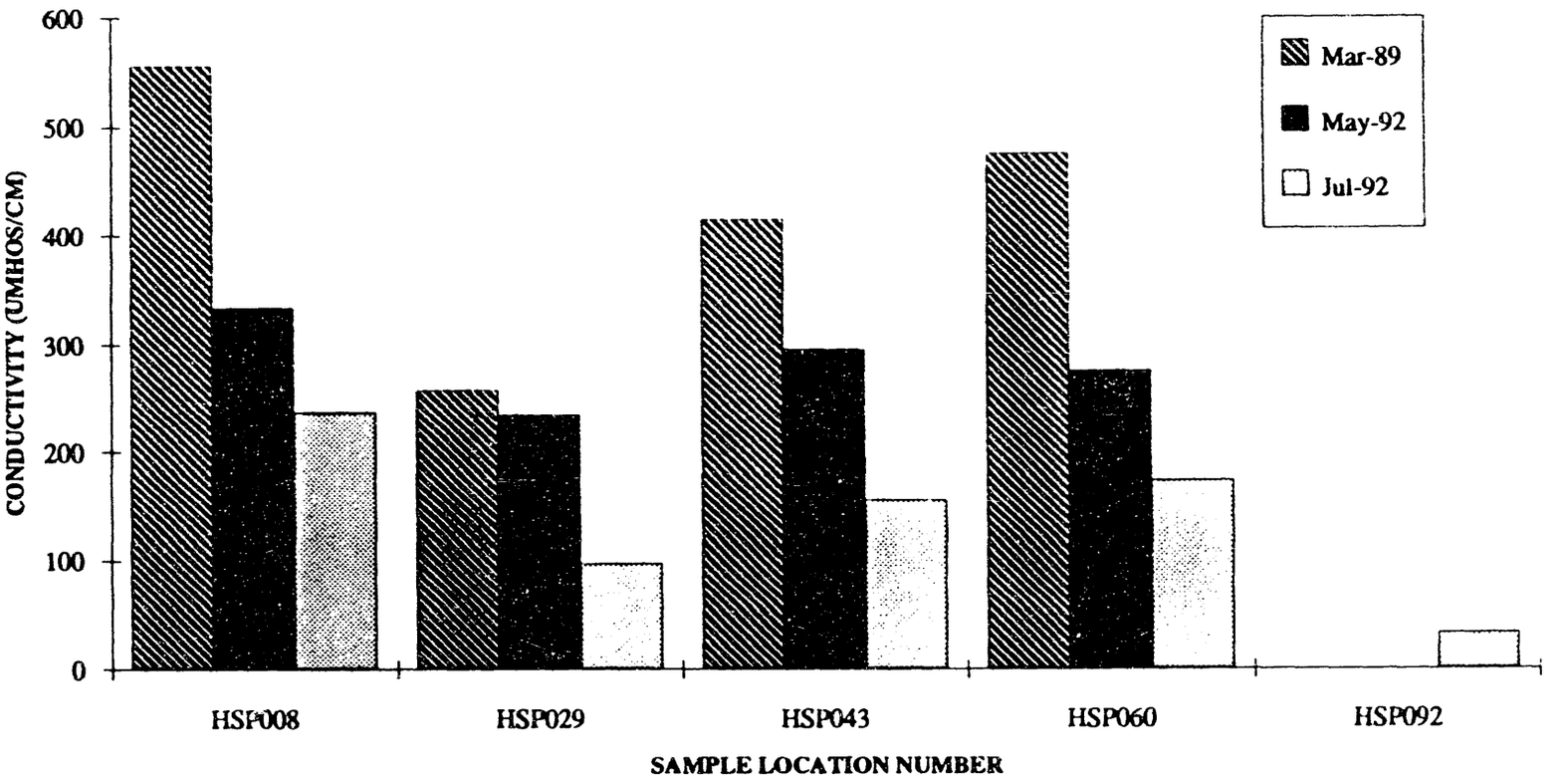


FIGURE 4-2. CONDUCTIVITY MEASUREMENTS IN F-AREA

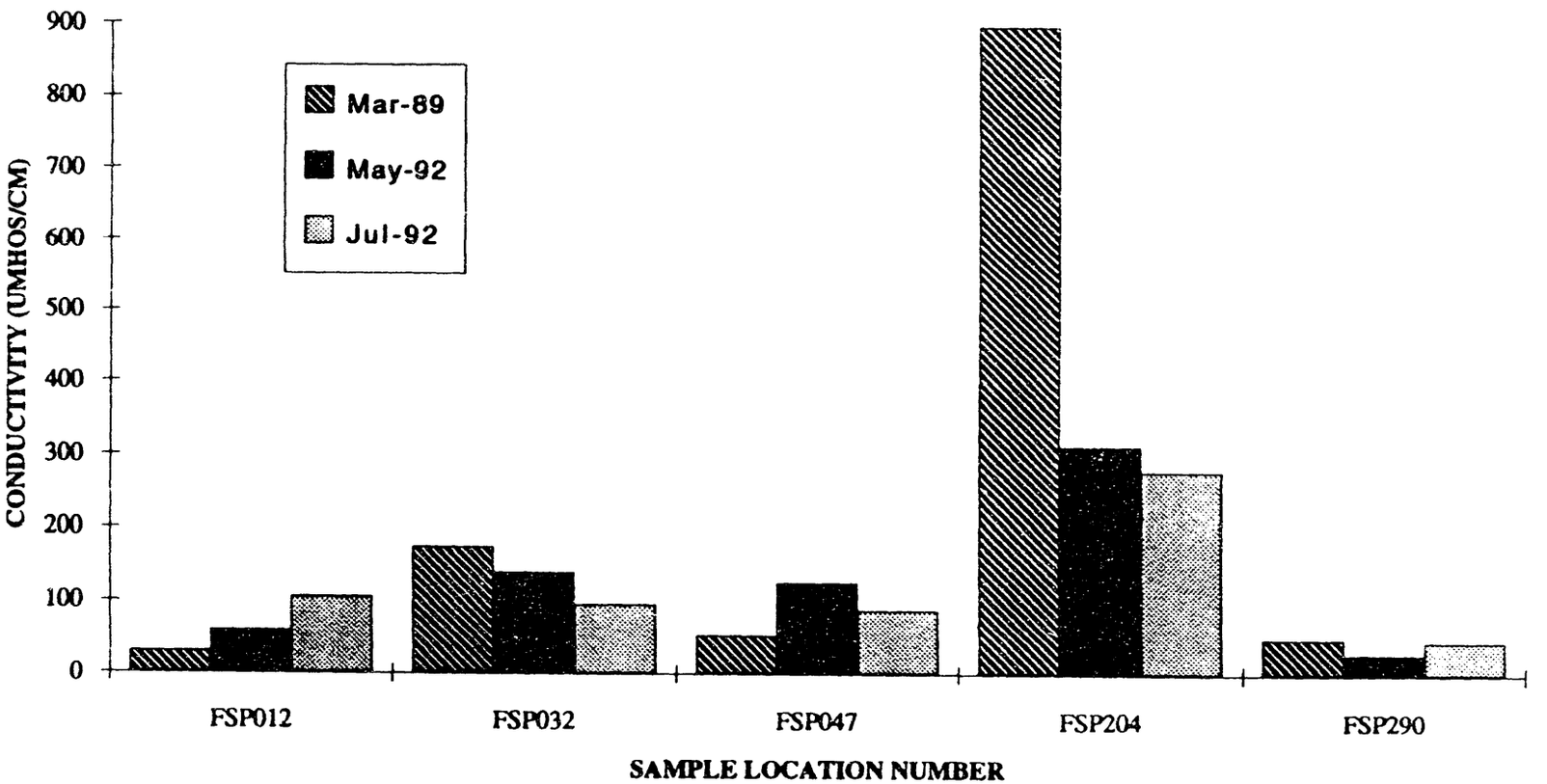


FIGURE 4-3. pH MEASUREMENTS IN H-AREA

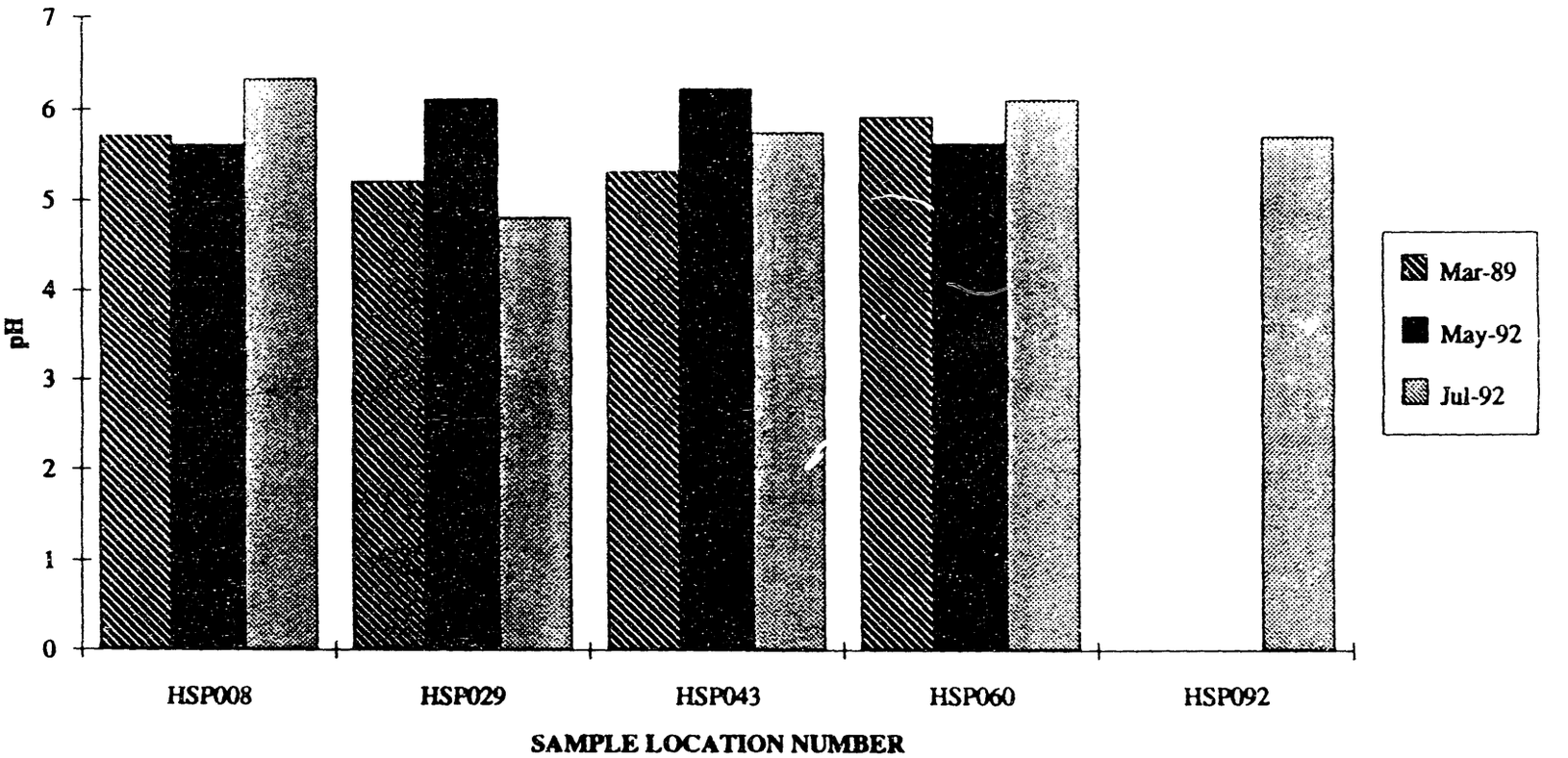
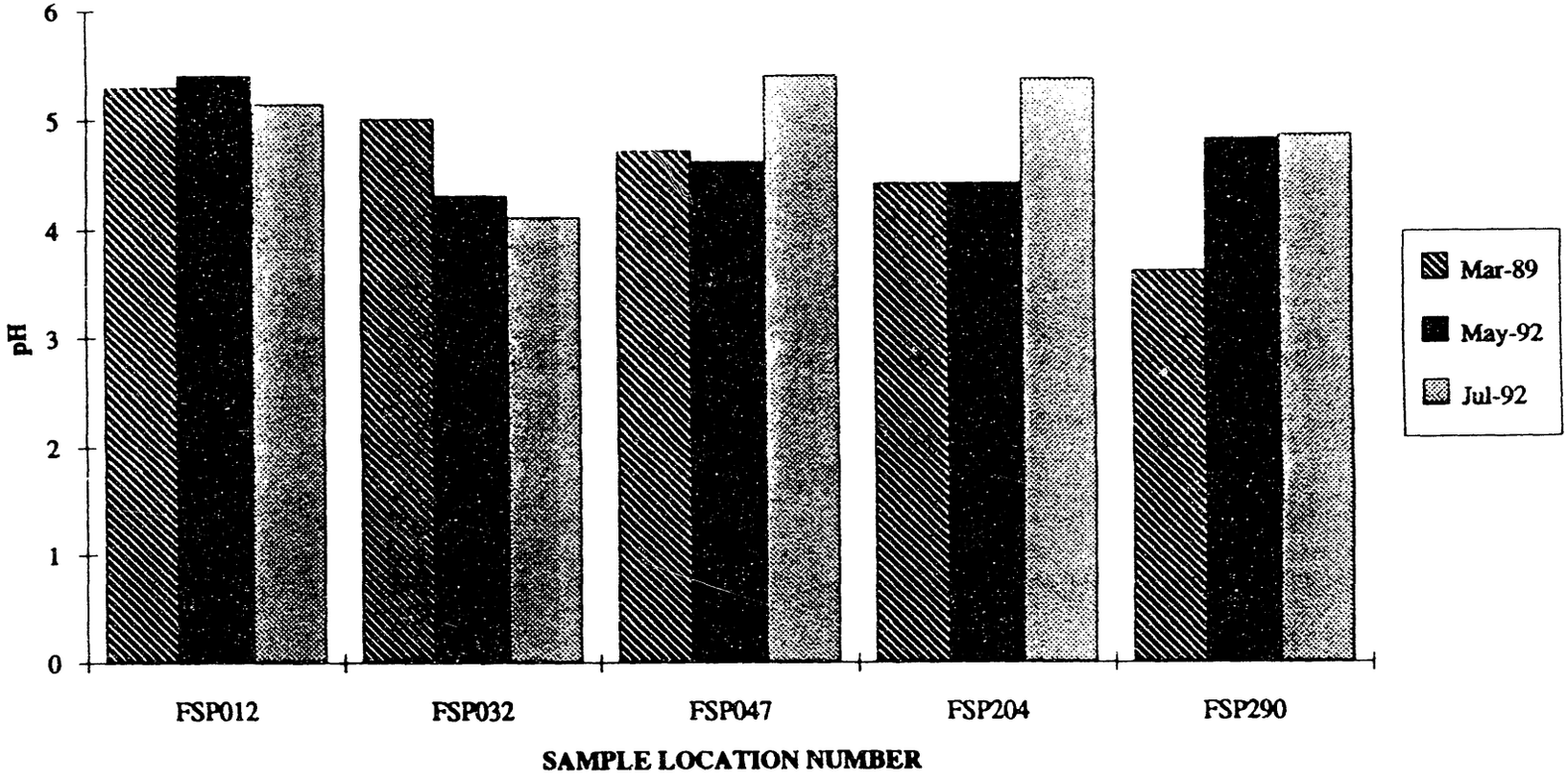


FIGURE 4-4. pH MEASUREMENTS IN F-AREA



average pH and conductivity of the background seepline and stream water samples. The average redox potential of both the F-Area and the H-Area seepline samples is less than the average redox potential of the background seepline sample. However, the redox potential of the background stream water was lower than the average redox potential of the downgradient stream samples.

Historical trends indicate decreasing conductivity measurements in the H-Area seepline samples. No trends are evident in the conductivity measurements for the F-Area seepline.

Historical pH measurements in both the F-Area and H-Area seepline samples show no general trends. There is no historical information available regarding the redox potential of the seepline or stream water samples.

5.0 REFERENCES

Haselow, J.S., M. Harris, B.B. Looney, N.V. Halverson, J.B. Gladden. 1990. *Analysis of Soil and Water at the Four Mile Creek Seepline Near the F and H Area of the SRS (U).* WSRC-RP-90-0591, Savannah River Laboratory, Aiken, South Carolina.

Dixon, K.l. and V.A. Rogers. *Results of the First Quarter Tritium Survey of the F- and H-Area Seeplines: May 1992 (U).* WSRC-TR-92-304, Savannh River Technology Center, Aiken, South Carolina.

APPENDIX A
Chain-of-custody records

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: QA 2S Sampled By: SRTC Date: COC # 343F Time: Duplicate Id:	Ship To: Environmental Physics, Inc. 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments* Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K. Hein (Sampler)	27 July 92	1305	M.K. Hein	27 July 92	1305	704B storage

CHAIN OF CUSTODY

F. area field blanks

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: QA 2S
Date:
Time:

Sampled By: SRTC
COC # 3437
Duplicate Id:

Ship To: General Engineering Laboratories
2010 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*: Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
[illegible]	[signature] (Sampler)	27 Jul 92	1305	[signature]	27 Jul 92	1305	704B storage

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: QA 4S Date: Time:	Sampled By: SRTC COC # 3443 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 2 Gal Plastic	Gamma PHA
2	HNO3		2	1 2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1 2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1 2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments* Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	Alan Stuart (Sampler)	7/29/92	1345	Richard L. Hess	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: QA 4S Sampled By: SRTC
Date: COC # 343B
Time: Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments* Strain Water Study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (sampler)	11/27/92	1345	[signature]	11/27/92	1345	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: HSP 092 Sampled By: SRTC Date: 21 JUL 92 COC # 341ES Time: 1047 Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M.S. Hensley (Sampler)	7-21-92	[illegible]	K L Dixon	7/21/92	1615	709B Storage

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 092 Sampled By: SRTC
Date: 7-21-92 COC # 341F
Time: 1047 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M.L. Hess (Sampler)	7-21-92	11:[illegible]	K L Dixon	7/21/92	1615	7048 storage

25 JUN 1992 09:31 **

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: HSP 092 Sampled By: SRTC Date: 7 21-92 COC # 341E Time: 1047 Duplicate Id:	Ship To: General Engineering Laboratories 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Required

Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M.B. Harris (Sampler)	21 Jul 92	1615	K L Dixon & 704B Storage	7/21/92	1615	704B Storage

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: HSP 029 Sampled By: SRTC Date: 7-21-92 COC # 3419 Time: 1230 Duplicate Id:	Ship To: Environmental Physics, Inc. 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA86567N

Laboratory Work Request Form Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 2 Gal Plastic	Gamma PHA
2	HNO3		2	1 2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1 2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1 2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I ncor ect *** First relinqu her is the sampler

Comments
Shipping Clearance Required : Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M L Hei (Sampler)	7-21-92	16-1	K L Di	7/21/92	1615	TCLP Storage

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: HSP 029 Sampled By: SRTC Date: 7-21-92 COC # 3418S Time: 1230 Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M.K. Harding (Sampler)	7-21-92	1615	K L Dix	7/21/92	1615	704B storage

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 029
Date: 7-21-92
Time: 1230

Sampled By: SRTC
COC # 3418
Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1.2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Required

Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***		Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M.K. Hay	(Sampler)	7-21-92	16[illegible]	KL Dix	7/21/92	1615	7648 storage

25 JUN '92 09:3[illegible]

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 060 Sampled By: SRTC
Date: 7-21-92 COC # 341D
Time: Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Lt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments
Shipping Clearance Required
Stream [illegible] study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	[illegible] (Sampler)	7-21-92	16[illegible]	[illegible]	7/21/92	1615	704 B Storage

25 JUN 1992 09:31 18:20

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 060
Date: 7-21-92
Time:

Sampled By: SRTC
COC # 341C
Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1 Gal Plastic	Cross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required
Stream water study.
Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	[signature] (Sampler)	7-21-92	161[illegible]	[signature]	7/21/92	1615	704 B Storage

25 JUN 1992 [illegible]

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: HSP 060 Sampled By: SRTC Date: 7-21-92 COC # 341CS Time: Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***		Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M K Hevin	(Sampler)	7-21-92	1615	E L Dix	7/21/92	1615	704B storage

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: FMC 001F Sampled By: SRTC Date: 7-22-92 COC # 342E Time: 0948 Duplicate Id:	Ship To: General Engineering Laboratories 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Required

Stream water study

Stream water study.

Custody Transfer Record

Items	Relinquished By***		Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Hennessy	(Sampler)	22July92	1400	M K Hennessy	22July92	1401	deposited at storage area at 704B

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FMC 001F Sampled By: SRTC
Date: 7-22-92 COC # 342F
Time: 0948 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec [illegible] M, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K. Hennessy (Sampler)	22 July 92	1400	M.K. Hennessy	22 July 92	1400	Sample is storage at 748

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: FMC 001F Sampled By: SRTC Date: 7-22-92 COC # 342ES Time: 0948 Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Hewing (Sampler)	22July92		[illegible]	22July92	1400	Deposited in storage at 764B

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FMC 002H Sampled By: SRTC
Date: 7-22-92 COC # 342C
Time: 1630 Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form Lab ID*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, C Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chlorid Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Required

Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K. Harrison (Sampler)	22July92	1400	M.K. Harrison	22July92	1410	Deposit in storage cont 3468

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FMC 002H   Sampled By: SRTC
Date: 7 22 92   COC # 342D
Time: 1036   Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional   ** pH: C-correct I-incorrect   *** First relinquisher is the sampler

Comments*
Shipping Clearance Required
Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
[illegible]	M L Henning (Sampler)	22 July 92	1400	M L Henning	22 July 92	1400	Deposited in [illegible] at 714B

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FMC 002H Sampled By: SRTC
Date: 7 22-92 COC # 342CS
Time: 1030 Duplicate Id:

Ship To: EMS Radiological Laboratory
Building 735-A
SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Herring (Sampler)	22Jul92	1400	M.K. Herring	22Jul92	1401	Deposited in storage room at 704A

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: BG 003 — Sampled By: SRTC
Date: 7-22-92 — COC # 3434
Time: ~~BG003~~ 11:26 — Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional   ** pH: C-correct I-incorrect   *** First relinquisher is the sampler

Comments

Shipping Clearance Required

Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	M K Herring (Sampler)	22 July 92	[illegible]	[illegible] Herring, deposited at 704B storage area	22 July 92	1400	Storage at 704B

25 JUN 1992 09 07 44

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: BG 003 Date: 7-22-92 Time: 1126	Sampled By: SRTC COC # 3435 Duplicate Id:	Ship To: Environmental Physics, Inc. 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 2 Gal Plastic	Gamma PHA
2	HNO3		2	1 2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1 2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1 2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Above	[illegible] (Sampler)	22 July 92	[illegible]	[illegible]	[illegible] July 92	1400	deposited in storage at 704B

25 JUN 1992 09 07 44

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: BG 003 Sampled By: SRTC Date: 7-22-92 COC # 3434S Time: 1126 Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Harring (Sampler)	22July92	1400	M K Harring	22July92	1400	deposited rolls in storage area at 724 B

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FMC 001H — Sampled By: SRTC
Date: 7-22-92 — COC # 342A
Time: 12 20 — Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Required

Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
[illegible]	M K [illegible] (Sampler)	22 Jul 92	[illegible]	[illegible]	22 Jul 92	1400	deposited in storage area at 704

25 JUL 1992 [illegible]

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FMC 001H Sampled By: SRTC
Date: 7-22-92 COC # 342B
Time: 1220 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 2 Gal Plastic	Gamma PHA
2	HNO3		2	1 2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1 2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1 2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Heiny (Sampler)	22 July 92	1410	M K Heiny	22 July 92	1410	deposited in storage room 204

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FMC 00111 Sampled By: SRTC
Date: 7-22-92 COC # 342AS
Time: 1220 Duplicate Id:

Ship To: EMS Radiological Laboratory
Building 735-A
SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty.	Container	Analysis Requested
1	None		1	2 0 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments
Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M. K. Herring (Sampler)	22July92	14.	K Herring	22July92	1400	Dispose in storage area 704B

CHAIN OF COUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 008 Sampled By: SRTC
Date: 7-23-92 COC # 3416
Time: 0930 Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID *

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments: Stream water study
Shipping Clearance Required
Stream water study.

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
all	M K Hen (Sampler)	7-23-92	1510	KLD	7/23/92	1533	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 008 Sampled By: SRTC
Date: 7-23-92 COC # 3417
Time: 0930 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required
Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Herring (Sampler)	7-23-92	1510	[illegible]	7/23/92	1533	

HSP008

CHAIN OF COUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: QA 1S Date: 7-23-92 Time: 0930	Sampled By: SRTC COC # 3436 Duplicate Id:	Ship To: General Engineering Laboratories 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Required

Stream water study

Stream water study.

Custody Transfer Record

Items	Relinquished By***		Date	Time (mil)	Received By	Date	Time	Reason for Transfer*
above	MK Henning	(Sampler)	7-23-92	1318	KLD	7/23/92	1533	

#56068

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: QA 1S
Date: 7-23-92
Time: 0930

Sampled By: SRTC
COC # 343E
Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lat ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
all	M K Hiring (Sampler)	7-23-92	~~1310~~ 1514	KLD	7/23/92	1533	

HSP008

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: QA 1S
Date: 7-23-92
Time: 0530

Sampled By: SRTC
COC # 3439
Duplicate Id:

Ship To: Roy F. Weston, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313
(215)524-7360
CONTRACT# AA77610N

Laboratory Work Request Form

Lab ID*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	250 mL Glass Amber	TOH
4	HNO3		1	1 L Plastic	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	H2SO4		1	500 mL Plastic	NO3
6	H2SO4		1	950 mL Glass Amber	Phenols
7	Cold		1	1 Lt. Plastic	Fluoride
8	Cold		1	1 Lt. Plastic	Chloride
9	Cold		1	1/2 Gal Plastic	Tritium
10	HNO3		1	1/2 Gal. Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments: Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
all	M. S. Hay (Sampler)	7-23-92	1310 1510	KLD	7/23/92	1533	

#SR008

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: QA 1S
Date: 7-23-92
Time: 0930

Sampled By: SRTC
COC # 3441
Duplicate Id:

Ship To: Clemson Technical Center, Inc.
100 Technology Drive
Anderson, SC 29625
(803)648-2413
Contract#AA86566N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 Lt Plastic	Gamma PHA
2	HNO3		4	1 Lt Plastic	Sr 90
3	HNO3		2	1 Lt Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	None		2	1 Lt Glass	I 129
5	HNO3		4	1 Lt Plastic	Ra 226, Ra 228
6	None		2	1 Lt Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments* Stream ~~st~~ water study

Custody Transfer Record

Items	Relinquished By***	Date	Time***	Received By	Date	Time	Reason for Transfer*
Above	M K Heim (Sampler)	7-23-92	1340	KLD	7/23/92	1533	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: HSP 043 Sampled By: SRTC Date: 7-23-92 COC # 341A Time: 1145 Duplicate Id:	Ship To: General Engineering Laboratories 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Required Stream water study

Stream water study.

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Hering (Sampler)	7-23-92	1510	K L D +	7/23/92	1533	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 043 Sampled By: SRTC
Date: 7 23-92 COC # 341B
Time: 1145 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional   ** pH: C-correct I-incorrect   *** First relinquisher is the sampler

Comments*
Shipping Clearance Required   Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M [illegible] (Sampler)	7-23-92	1510	KLD	7/23/92	1533	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 043 Sampled By: SRTC
Date: 7-23-92 COC # 3438
Time: 1145 Duplicate Id:

Ship To Roy F. Weston, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313
(215)524-7360
CONTRACT# AA77610N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	250 mL Glass Amber	TOH
4	HNO3		1	1 L Plastic	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn 28
5	H2SO4		1	500 mL Plastic	NO3
6	H2SO4		1	950 mL Glass Amber	Phenols
7	Cold		1	1 Lt. Plastic	Fluoride
8	Cold		1	1 Lt. Plastic	Chloride
9	Cold		1	1/2 Gal Plastic	Tritium
10	HNO3		1	1/2 Gal. Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments Stream water study

Custody Transfer Record

Items	Relinquished By***		Date	Time	Received By	Date	Time	Reason for Transfer*
2 hrs	M K Hess	(Sampler)	7-23-92	1510	KLD+	7/23/92	15:33	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: HSP 043 — Sampled By: SRTC
Date: 7-23-92 — COC # 3440
Time: 1145 — Duplicate Id:

Ship To: Clemson Technical Center, Inc.
100 Technology Drive
Anderson, SC 29625
(803)648-2413
Contract#AA86566N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 Lt Plastic	Gamma PHA
2	HNO3		4	1 Lt Plastic	Sr 90
3	HNO3		2	1 Lt Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	None		2	1 Lt Glass	I 129
5	HNO3		4	1 Lt Plastic	Ra 226, Ra 228
6	None		2	1 Lt Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*: Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
G Dove	M. K. Hein (Sampler)	7-23-92	~~1340~~ 1510 MKH	K L D	7/23/92	15:33	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 012 Sampled By: SRTC
Date: 7/28/92 COC # 3421
Time: ~~1430~~ 1445 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***		Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K Hearn	(Sampler)	7-28-92	1300	K L Dent	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: FSP 012 Sampled By: SRTC Date: 7/28/92 COC # 3420S Time: ~~1145~~ 1030 Duplicate Id:	Ship To EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Hein (Sampler)	7-28-92	1300	K L Dy	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 012 Sampled By: SRTC
Date: 7/28/92 COC # 3420
Time: MILT ~~1145~~ 1130 Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, [illegible]u, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chlorid[illegible] Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Required

Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	MK Neiy (Sampler)	7-28-92	1310	K L D+	7/28/92	1310	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 047 Sampled By: SRTC
Date: 7/28/92 COC # 3424
Time: 0900 Duplicate Id:

Ship T : General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lat ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Required

Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K Hein (Sampler)	7-28-92	1300	K L Dyer	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 047 Sampled By: SRTC
Date: 7/28/92 COC # 3444
Time: 0900 Duplicate Id:

Ship To: Clemson Technical Center, Inc.
100 Technology Drive
Anderson, SC 29625
(803)648-2413
Contract#AA86566N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 Lt Plastic	Gamma PHA
2	HNO3		4	1 Lt Plastic	Sr 90
3	HNO3		2	1 Lt Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	None		2	1 Lt Glass	I 129
5	HNO3		4	1 Lt Plastic	Ra 226, Ra 228
6	None		2	1 Lt Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Hering (Sampler)	7-28-92	1300	K L D	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 047 Sampled By: SRTC
Date: 7/28/92 COC # 3425
Time: 0900 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Harvey (Sampler)	7-28-92	1300	K L D	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 047 Sampled By: SRTC
Date: 7/28/92 COC # 343C
Time: 0900 Duplicate Id:

Ship To: Roy F. Weston, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313
(215)524-7360
CONTRACT# AA77610N

Laboratory Work Request Form

Lab ID

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	250 mL Glass Amber	TOH
4	HNO3		1	1 L Plastic	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	H2SO4		1	500 mL Plastic	NO3
6	H2SO4		1	950 mL Glass Amber	Phenols
7	Cold		1	1 Lt. Plastic	Fluoride
8	Cold		1	1 Lt. Plastic	Chloride
9	Cold		1	1/2 Gal Plastic	Tritium
10	HNO3		1	1/2 Gal. Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments* Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K Henry (Sampler)	7-28-92	1300	K L D +	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 047 Sampled By: SRTC
Date: COC # 3424S
Time: 0900 Duplicate Id:

Ship To: EMS Radiological Laboratory
Building 735-A
SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K Hennig (Sampler)	7-28-92	1300	K L Dt	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: FSP 032 Sampled By: SRTC Date: 7/28/92 COC # 3422 Time: 1030 Duplicate Id:	Ship To: General Engineering Laboratories 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1 2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1 2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Required

Stream water study

Stream water study.

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Wein (Sampler)	7-28-92	1[illegible]	K L Dyer	7/29/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 032 Sampled By: SRTC
Date: 7/29/92 COC # 3423
Time: 1030 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec C[illegible], Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M.K Hennig (Sampler)	7-28-92	1400	K.L Dixon	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: FSP 032 Sampled By: SRTC Date: 7/28/92 COC # 3422S Time: 1030 Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Hain (Sampler)	7-28-92	1300	K L Dyt	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 204 Sampled By: SRTC
Date: 7/28/92 COC # 3426
Time: 1130 Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Ti, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required
Stream water study.

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M K Hennig (Sampler)	7-28-92	1300	K C Dl	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP 204 | Sampled By: SRTC
Date: 7/28/92 | COC # 3427
Time: 11/30 | Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86557N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required: Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	MK Harris (Sampler)	7-28-92	01300	K L Dix	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: FSP 204 Sampled By: SRTC Date: 7/28/92 COC # 3426S Time: 1130 Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	M S Hein (Sampler)	7-28-92	1300	K L Dy	7/28/92	1300	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: BG 001 Sampled By: SRTC Date: 7-29-92 COC # 3430 Time: 1130 Duplicate id:	Ship To: General Engineering Laboratories 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments* stream water study

Shipping Clearance Required

Stream water study.

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (Sampler)	7/29/92	1345	[signature]	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: BG 001 Sampled By: SRTC Date: 7-29-92 COC # 3430S Time: 1130 Duplicate Id:	Ship To: EMS Radiological Laboratory Building 735-A SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinq[illegible] is the sampler

Comments*

Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (Sampler)	7/29/92	1130	[signature]	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: BG 001 Sampled By: SRTC Date: 7-25-92 COC # 3431 Time: 1130 Duplicate Id:	Ship To: Environmental Physics, Inc. 2040 Savage Road Charleston, S.C. 29414 (803) 556-8171 CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinqui[illegible] the sampler

Comments* Steam water sampling.

Shipping Clearance Required

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (Sampler)	7/29/92	13[illegible]	[signature]	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP ~~258~~ 290
Date: 7-29-92
Time: 0930
Sampled By: SRTC
COC # 3428
Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	25 mL Glass Amber	TOC
3	H2SO4		1	50 mL Glass Amber	TOH
4	HNO3		1	50 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	25 mL Plastic	Total Hardness
6	H2SO4		1	25 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	50 mL Plastic	Tritium
9	H2SO4		1	25 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional   ** pH: C-correct I-incorrect   *** First relinquisher is the sampler

Comments

Shipping Clearance Required   Stream water study

Stream water study.

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (Sampler)	7/29/92	134[illegible]	Ken Dixon	7/29/92	1345	Shipping

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP ~~286~~ 290
Date: 7-29-92
Time: 0930

Sampled By: SRTC
COC # 3429
Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/ Gal Plastic	Gamma PHA
2	HNO3		2	1/ Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/ Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 ℓ. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required
Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (Sampler)	7/29/92	1345	[signature]	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: FSP ~~286~~ 290 K
Date: 7-29-92
Time: 0930
Sampled By: SRTC
COC # 3428S
Duplicate Id:

Ship To: EMS Radiological Laboratory
Building 735-A
SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquished by the sampler

Comments*
Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	Alan Stuart (Sampler)	7/29/92	1340	Richard McKeever	7/29/92	1345	

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: QA 3S Date: 7-29-92 Time: 0930	Sampled By: SRTC COC # 343A Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments

Shipping Clearance Required Stream . . . study

Stream water study.

Custody Transfer Record

Items	Relinquished By***		Date	Time	Received By	Date	Time	Reason for Transfer*
above	Alan Stewart	(Sampler)	7/29/92	1345	Richard A Keenan	7/29/92	1345	

FSE 270 CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: QA 3S Date: 7-25-92 Time: 0930	Sampled By: SRTC COC # 3442 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Gal. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Shipping Clearance Required

Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	(Sampler)	7/29/92	1345		7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: QA 3S
Date: 7-25-92
Time: 0530
Sampled By: SRTC
QC # 343D
Duplicate Id:

Ship To: Roy F. Weston, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313
(215)524-7360
CONTRACT# AA77610N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	Ca, VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	250 mL Glass Amber	TOH
4	HNO3		1	1 L Plastic	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
5	H2SO4		1	500 mL Plastic	NO3
6	H2SO4		1	950 mL Glass Amber	Phenols
7	Cold		1	1 L Plastic	Fluoride
8	Cold		1	1 L Plastic	Chloride
9	Cold		1	1/2 Gal Plastic	Tritium
10	HNO3		1	1/2 Gal. Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments: Stream water study

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	Alan Stewart (Sampler)	7/28/92	1345	Richard L. Olsen	7/28/92	1345	

FSP 290 CHAIN OF CUSTODY

Savannah River Site Environmental Protection Department Building 735-A Aiken, S.C. 29808	Well: QA 3S Date: 7-29-92 Time: 0530	Sampled By: SRTC COC # 3445 Duplicate Id:

Ship To: Clemson Technical Center, Inc.
100 Technology Drive
Anderson, SC 29625
(803)648-2413
Contract#AA86566N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1 Lt Plastic	Gamma PHA
2	HNO3		4	1 Lt Plastic	Sr 90
3	HNO3		2	1 Lt Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	None		2	1 Lt Glass	I 129
5	HNO3		4	1 Lt Plastic	Ra 226, Ra 228
6	None		2	1 Lt Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinq[illegible] is the sampler

Comments* Stream water sa[illegible]

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (Sampler)	7/29/92	1345	[signature]	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: BG 002 Sampled By: SRTC
Date: 7-29-92 COC # 3432
Time: 1200 Duplicate Id:

Ship To: General Engineering Laboratories
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA77609N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HCL		4	40 mL Vials	GC VOA
2	H2SO4		1	250 mL Glass Amber	TOC
3	H2SO4		1	500 mL Glass Amber	TOH
4	HNO3		1	500 mL Rect Nalgene	Ag, Al, As, Ba, Be, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Sb, Se, Sn, Ti, V, Zn
5	HNO3		1	250 mL Plastic	Total Hardness
6	H2SO4		1	250 mL Glass Amber	NO3, Phenols
7	Cold		1	1/2 Gal Plastic	Alkalinity as CaCO3, Chloride, Fluoride
8	Cold		1	500 mL Plastic	Tritium
9	H2SO4		1	250 mL Nalgene	NH3
10	HNO3		1	1/2 Gal Plastic	Gross Alpha, N-V Beta

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments*
Stream water study
Shipping Clearance Required

Stream water study.

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	[signature] (Sampler)	7/29/92	1345	[signature]	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29809

Well: BG 002 Sampled By: SRTC
Date: 7-25-92 COC # 3433
Time: 1200 Duplicate Id:

Ship To: Environmental Physics, Inc.
2040 Savage Road
Charleston, S.C. 29414
(803) 556-8171
CONTRACT#AA86567N

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	HNO3		2	1/2 Gal Plastic	Gamma PHA
2	HNO3		2	1/2 Gal Plastic	Ra 226, Ra 228, Sr 90
3	HNO3		2	1/2 Gal Plastic	Alpha Spec AM, Alpha Spec CM, Alpha Spec NP, Alpha Spec PU, Alpha Spec TH, Alpha Spec U
4	HNO3		1	1/2 Gal Plastic	I 129
5	HNO3		1	1 Qt. Plastic	Tc 99

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments* Stream water study
Shipping Clearance Required

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
above	Alan Stuart (Sampler)	7/29/92	1345	Richard L. Kern	7/29/92	1345	

CHAIN OF CUSTODY

Savannah River Site
Environmental Protection Department
Building 735-A
Aiken, S.C. 29808

Well: BG 002 Sampled By: SRTC
Date: 7-25-92 COC # 3432S
Time: 1200 Duplicate Id:

Ship To: EMS Radiological Laboratory
Building 735-A
SRS

Laboratory Work Request Form

Lab ID:*

Item	Preservative	pH**	Qty	Container	Analysis Requested
1	None		1	250 mL Plastic	Total Activity

* optional ** pH: C-correct I-incorrect *** First relinquisher is the sampler

Comments
Shipping Clearance Sample

Custody Transfer Record

Items	Relinquished By***	Date	Time	Received By	Date	Time	Reason for Transfer*
Grab	(Sampler)	7/25/92	1345		7/26/92	1345	

General Engineering Laboratories
2040 Savage Road
Charleston, South Carolina 29414
PO Box 30712
Charleston, South Carolina 29417
803-556-8171

CHAIN OF CUSTODY RECORD

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Client Name / Facility Name

Collected By / Company

SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# of containers	pH, conductivity	TOC / DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS -specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type		Remarks
(MW)-4	27 Jul 92	1045	X				9																9	½ gallon plastic RAD
																							1	½ gallon plastic unpreserved
																							1	250ml plastic Metals
									2															glass
																							1	500ml T-intus
																							1	250ml plastic bacteria
																							1	250ml plastic unpreserved
										1														500ml glass
													3											1 cap broken

SAMPLE ANALYSIS REQUIRED(s) - use remarks area to specify specific compounds or methods

Use P or P in the boxes to indicate whether sample was filtered and/or preserved

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	27 Jul 92	1305					
Relinquished by:	Date	Time	Received by lab by:	Date	Time	Remarks	

White • sample collector Yellow • file Pink • with report

CHAIN OF CUSTODY RECORD

General Engineering Laboratories
2040 Savage Road
Charleston, South Carolina 29414
PO Box 30712
Charleston, South Carolina 29417
803-556-8171

Page ____ of ____

Client Name / Facility Name: SRS

Collected By / Company: Normandeau Associates

SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# of containers	pH, conductivity	TOC / DOC	TOX	Chloride, Fluoride, Sulfate	Nitrate/Nitrite	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type			Remarks
								SAMPLE ANALYSIS REQUIRED(s) - use remarks area to specify specific compounds or methods																	Use P or P in the boxes to indicate whether sample was filtered and/or preserved ←
QA-1	27 Jul 92	1145	X				21																1	1/2 gallon plastic RAD
																							1	1/2 gallon plastic unpreserved
																							1	250ml plastic (metals)
									2															glass
																							1	500ml (tritium)
																							1	250ml plastic (hardness)
																							1	250ml plastic (ammonia)
										1														500ml glass
													4											

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[signature]	7/27/92	1345	[signature]				
Relinquished by:	Date	Time	Received by lab by:	Date	Time	Remarks	

White • sample collector Yellow • file Pink • with report

CHAIN OF CUSTODY RECORD

General Engineering Laboratories
2040 Savage Road
Charleston, South Carolina 29414
PO Box 30712
Charleston, South Carolina 29417
803-556-8171

Page ____ of ____

Client Name / Facility Name: 325

Collected By / Company: [illegible]

SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# of containers	pH, conductivity	TOC / DOC	TOX	Chloride, Fluoride, Sulfate	Nitrate/Nitrite	VOC - Specify Method required	METALS -specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type	624	Remarks
GW-3	27-Jun-92	1012	X				21																9	
																							1	
														1										
									2															
																							1	
																							1	
																							1	

Use F or P in the boxes to indicate whether sample was filtered and/or preserved ←

SAMPLE ANALYSIS REQUIRED(s) - use remarks area to specify specific compounds or methods

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by lab by:	Date	Time	Remarks	

White • sample collector Yellow • file Pink • with report

General Engineering Laboratories
2040 Savage Road
Charleston, South Carolina 29414
PO Box 30712
Charleston, South Carolina 29417
803-556-8171

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name / Facility Name: SRS

Collected By / Company: Normandeau Associates

SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# of containers	pH, conductivity	TOC / DOC	TOX	Chloride, Fluoride, Sulfate	Nitrate/Nitrite	VOC - Specify Method required	METALS -specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type		Remarks
QA-2	27July92	0800	X				21																9	1/2 gallon plastic RAD
																							1	1/2 gallon plastic unpreserved
																							1	250ml plastic (metals)
									2															glass
																							1	500ml (tritium)
																							1	250 ml plastic (hardness)
																							1	250ml plastic (ammonia)
										1														500 ml glass
													4											

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	27/92	1345					
Relinquished by:	Date	Time	Received by lab by:	Date	Time	Remarks	

Use F or P in the boxes to indicate whether sample was filtered and/or preserved

White • sample collector Yellow • file Pink • with report

APPENDIX B
Metcalf & Eddy Surveillance

July 28, 1992

010005-0001

To: Gregg Mooney
From: Peter Boucher
Subject: Quality Assurance Surveillance for
Four Mile Creek
Task Order No. 26

SURVEILLANCE NARRATIVE

On Wednesday and Thursday July 22 and 23, 1992, I conducted a quality assurance surveillance of surface and groundwater sampling conducted by Normandeau Associates, Inc. (NAI) at Four Mile Creek which is currently under investigation under Task Order No. 26. The purpose of the surveillance was to monitor the sampling operation for consistency with quality assurance procedures developed for the project. Accordingly, I checked that the equipment, equipment decontamination, instrument calibration, and sampling procedures, were in conformance with procedures outlined in the Quality Assurance Project Plan prepared by M&E dated June 1992. I also checked that health and safety procedures were followed as outlined in the SHERP dated July 10, 1992.

NAI personnel conducting the work included Kathy Herring, Alan Stuart, and Ryan Brady. On Wednesday, I observed the collection of surface water at one station. On Thursday, I observed collection of groundwater at one station where the sampling bucket had been installed on Tuesday.

The surveillance was conducted by reviewing the aforementioned QAPP and generating a series of checklists outlining the critical steps in each phase of the sampling. Actual operations in the field were compared with the checklists. The checklists used and related comments on the operation follow.

CHECKLISTS AND COMMENTS

Equipment

Field data sheets	yes
Prelabeled sample bottles	yes
Pump/Battery/Tygon	yes
Sample Buckets (5 gal)	yes
Waterproof pens	see below
Rubber gloves	yes
Water quality meters	yes
Hip boots	yes
Ice	yes
Filter	yes
Mobile phone	yes
First Aid Kit	yes
Fire extinguisher	yes

MSDS	see below

Comments - The ink used to label the first set of bottles became blurred when the bottles were wet. Permanent markers or ballpoint pens should be used. The MSDS for tritium was not available yet and is to be provided by the STR. An MSDS for Methanol is available in the SHERP.

Instruments

Calibrate before sampling	yes
Calibration logbook	yes

Comments - Calibration was conducted before sampling at each station and the results recorded in a logbook.

Sampling Procedures

Bottles have preservative	yes
PVC stake marks station	yes
Change tubing at each station	yes
Flush pump for 20 secs between samples	yes
Place samples on ice	yes
pH/cond/orp	yes
Sample VOAs and metals first	yes
Bottle marked with station, date and time	yes
Rinse probes with DI between measurements	yes
Metals samples filtered	yes
Do not overflow bottles	yes

Comments - The groundwater sample was very turbid and may not accurately reflect the quality of groundwater entering Four Mile Creek. The samplers attempted to collect water from the surface, but the turbidity was present throughout the water in the bucket, and may have been caused by the disturbance of installing the bucket, and possibly by a light overnight rain. Material excavated for the bucket was dumped directly adjacent to the hole, possibly contributing to the turbidity. This material should be cast further away from the hole to minimize erosion and turbidity in the event of rain. It should be noted in the lab reports and in the final report that the water quality results were influenced by turbidity resulting from the sampling technique.

A new length of tygon tubing was used for each sample. Part of the surface water filtering was conducted without gloves and several filters were handled with bare hands. Nitrile gloves should be worn whenever handling samples and during filtering.

Sample bottles were pre-preserved. However, the turbidity of the samples may have added considerable alkalinity. The pH of the samples should be checked and the preservative augmented if necessary.

The filtering apparatus was rinsed with DI water between stations to minimize cross-contamination.

QA Procedures

Quality assurance samples were collected at both groundwater stations.

Equipment decontamination was conducted off-site and could not be observed directly.

Sample Handling and Packaging

Samples were placed in plastic bags on ice. Samples were to be packaged by HP for radioactivity; thus packaging could not be observed directly.

Health and Safety

Hip waders and safety glasses were worn by all samplers. Life jackets were on hand in case of deep water. A mobile phone was available in case of emergency. Each truck was equipped with a first aid kit and fire extinguisher. Boot covers were worn in the exclusion zone of the groundwater sampling station.

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DATE
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