



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
8945 LATTY AVENUE
BERKELEY, MISSOURI 63134

REPLY TO
ATTENTION OF:

July 26, 2004

Formerly Utilized Sites Remedial Action Program

SUBJECT: Transmittal of Second Quarter (April 1 – June 30, 2004) Calendar Year 2004
Federal Facility Agreement (FFA) Progress Report for the FUSRAP St. Louis Sites

Mr. Dan Wall
U. S. Environmental Protection Agency
Region VII, Superfund Branch
901 North 5th Street
Kansas City, Kansas 66101

Dear Mr. Wall:

Please find enclosed the Second Quarter (April 1 – June 30, 2004) Calendar Year 2004 Federal Facility Agreement (FFA) Progress Report for the Formerly Utilized Sites Remedial Action Program (FUSRAP) St. Louis Sites. This report summarizes activities accomplished during the quarter. Also identified are planned but not accomplished activities for the second quarter and activities planned for the third quarter of 2004.

Copies of this report have been forwarded to Mr. Robert Geller, Mr. Eric Gilstrap and Mr. Peter Price of the Missouri Department of Natural Resources. If you have any questions concerning this report, please contact Dr. Greg Hempen at (314) 260-3939.

Sincerely,

A handwritten signature in cursive script, reading "Sharon R. Cotner".

Sharon R. Cotner
FUSRAP Program Manager

Enclosure

SECOND QUARTER CY04 FEDERAL FACILITY AGREEMENT PROGRESS REPORT

ACTIVITIES ACCOMPLISHED FOR SECOND QUARTER 2004 (April 1, 2004 – June 30, 2004)

Community Relations

- Conducted two St. Louis Oversight Committee Meetings this quarter (April 9th and May 14th). The June 11th meeting was canceled due the closing of federal offices for a national day of mourning (passing of former President Reagan).
- Issued the Five-Year Review report for public review and comment: *Initial Five Year Review Report for the FUSRAP St. Louis Sites in St. Louis, Missouri*.
- Issued the St. Louis FUSRAP Sites Spring 2004 newsletter in June 2004.
- Provided interactive FUSRAP displays for Incarnate Word Science Olympiad on April 20th, the annual Earth Day Celebration in Forest Park on April 25th, and the St. James Science Fair on May 18th.
- Presented background and status of FUSRAP work for Washington University Environmental Sciences class on June 9th.
- Hosted North St. Louis County Sites Record of Decision comment resolution meeting between USACE, USEPA and MDNR on June 22 and 23.
- Updated the FUSRAP web pages to provide monthly updates for project schedules and documents and including monthly meeting minutes and presentations for the St. Louis Oversight Committee web page.
- The documents of Table 1 were issued in the quarter.

Table 1. Documents issued by FUSRAP SLS

Document Title	Review Status	Document Date
Environmental Monitoring Data and Analysis Report for CY 2003	Final	June 2004
SLDS - Amendment 1 (<i>Additional Sampling for Plant 6WH South of Building 101</i>) to the Pre-Design Investigation Data Summary Report, Plants 6 West Half and 7W, FUSRAP St. Louis Downtown Site, St. Louis, Missouri	Rev. 0	May 2004
SLDS - Pre-Design Investigation Data Summary Report, Thomas & Proetz Lumber Company Vicinity Property (DT-10), FUSRAP St. Louis Downtown Site, St. Louis, Missouri (<i>Appendix A.6.1 of the Small Area Remediation Work Area-Specific Description, FUSRAP St. Louis Downtown Site, St. Louis, Missouri, Rev. 0, May 3, 2001</i>)	Rev. B-2	April 2004
SLDS - Plant 6 West Half Phase 1 Remedial Action Work Area-Specific Description and Design Package, FUSRAP St. Louis Downtown Site, St. Louis, Missouri	Rev. 0	June 2004
SLDS – Post-Remedial Action Report for the Accessible Soils within the St. Louis Downtown Site Plant 1 Property	Rev. B	April 2004

Table 1. Documents issued by FUSRAP SLS (Continued).

Document Title	Review Status	Document Date
SLDS – Pre-Design Investigation Work Description for the FUSRAP St. Louis Downtown Site	Rev. B	March 2004
Initial Five Year Review Report for the FUSRAP St. Louis Sites in St. Louis, Missouri.	Public Review	June 2004

Note: Only Final and Regulatory Review Documents are reported in this report.

All Sites

- Hosted the Technical Working Group Meeting on April 27, 2004 at the FUSRAP Program Management Offices on Latty Avenue.

St. Louis Airport Site (SLAPS)

- Continued excavation in Phases 2, 3, 4, 5, and 6. Excavated and shipped a total of 30,385 cubic yards (cyd) of contaminated material in the second quarter. A total of 918 cyd of contaminated material was shipped to Envirocare in Utah. A total of 29,467 cyd of contaminated material was shipped to U.S. Ecology in Idaho.
- Discharged 1,954,698 gallons of water for release in accordance with MSD permit in the second quarter. Since the beginning of the project, a total of 4,359,735 gallons of water has been released.
- There were no lost time accidents in the quarter. There have been 676 days without a lost-time accident.

St. Louis Downtown Site (SLDS)

- No soil was shipped offsite for disposal during the second quarter. No waste water was discharged to Metropolitan Sewer District.
- Completed surface restoration (asphalt placement) at the DT-4, DT-11 and DT-10.
- Repaired well DW18.
- Began remedial action activities at Plant 6 West Half, South of Building 101 (Phase 1).
- There were no lost time accidents in the quarter. There have been 897 days without a lost-time accident.

ACTIVITIES PLANNED FOR THE SECOND QUARTER 2004 BUT NOT ACCOMPLISHED

- None.

ACTIVITIES PLANNED FOR THIRD QUARTER 2004 (July 1, 2004 – September 30, 2004)

St. Louis Airport Site (SLAPS)

- Excavation and drainage improvements in Coldwater Creek.
- Continue ongoing activities.

St. Louis Downtown Site (SLDS)

- Continue ongoing activities.

DATA OBTAINED IN SECOND QUARTER CY 2004 (April 1, 2004 – June 30, 2004)

Table 2 summarizes the samples obtained from each site and their respective purposes. All data is available in electronic form. Any request for actual data, in part or total, will be provided to the requestor as the entire electronic quarterly data file.

The Quarterly Discharge Monitoring Report for the North County Sites is included (See Attachment A).

The Quarterly MSD Self-Monitoring Reports for the St. Louis Airport Site are included (See Attachment B).

Table 2. Second Quarter 2004 Sample Summary

Property Category	Sampling Event Name	Sample Matrix	Count	Sample Type	Purpose
ALL	Coldwater Creek-Environmental Monitoring-1Q2004	Surface Water	12	Grab	Environmental
	Utility Works	Soil	4	Grab	Environmental
HISS	Environmental TLDs-Environmental Monitoring--1Q2004	Thermoluminescent Dosimeters	7	Grab	Environmental
	Groundwater-Environmental Monitoring--1Q2004	Groundwater	6	Grab	Environmental
	Groundwater-Environmental Monitoring--2Q2004	Groundwater	3	Grab	Environmental
	HISS Air (Particulate Air)-Environmental Monitoring	Cellulose Filter	60	Grab	Environmental
	HISS NPDES-Environmental Monitoring	Stormwater	1	Grab	Environmental
HISS VP	VP 01L-Characterization	Soil	2	Grab	Characterization
SLAPS	Environmental TLDs-Environmental Monitoring--1Q2004	Thermoluminescent Dosimeters	7	Grab	Environmental
	Groundwater-Environmental Monitoring--1Q2004	Groundwater	6	Grab	Environmental
	Groundwater-Environmental Monitoring--2Q2004	Groundwater	6	Grab	Environmental
	Shaw HTR Hot Zones	Soil	42	Grab	Other
	SLAPS Air (Particulate Air)-Environmental Monitoring	Cellulose Filter	207	Grab	Environmental
	SLAPS MSD-Compliance	Process Water	23	Grab	Characterization
	SLAPS NPDES-Environmental Monitoring	Stormwater	31	Grab	Environmental
	SLAPS Phase 2 (SU #32)-Verification	Soil	4	Grab	Verification
	SLAPS PHASE 2 (SU #33)-Verification	Soil	1	Grab	Verification
	SLAPS Phase 2 (SU #34)-Verification	Soil	16	Grab	Verification
	SLAPS Phase 4 (SU #38)-Verification-Class 1	Soil	27	Grab	Verification
	SLAPS Phase 4 (SU #39)-Verification-Class 1	Soil	10	Grab	Verification
	SLAPS Phase 4 (SU #39)-Verification-Class 1	Soil	16	Grab	Verification
SLAPS VP	VP 23-Characterization	Soil	1	Grab	Characterization
	VP 02L-Characterization	Soil	4	Grab	Characterization
	VP 03C-Characterization	Soil	3	Grab	Characterization
	VP 08-Characterization	Soil	2	Grab	Characterization
	VP 08-PDI	Soil	8	Grab	Characterization
	VP 10-Verification	Soil	1	Grab	Verification
	VP 16-Characterization	Soil	5	Grab	Characterization
	VP 20-Characterization	Soil	2	Grab	Characterization
	VP 31-Characterization	Soil	48	Grab	Characterization
	VP 31-Characterization	Soil	3	Grab	Characterization
	VP 40A (Parcel 2)-Characterization	Soil	68	Grab	Characterization
	VP 40-Characterization	Soil	116	Grab	Characterization
	VP 43-Characterization	Soil	1	Grab	Characterization
	VP 44-Characterization	Soil	1	Grab	Characterization
	VP 47-Characterization	Soil	4	Grab	Characterization
	VP 4C/5C (SU1)-Verification-Class 1	Soil	4	Grab	Verification
	VP 4C/5C (SU1)-Verification-Class 1	Soil	3	Grab	Verification
	VP 50-Characterization	Soil	10	Grab	Characterization
	VP 51-Characterization	Soil	16	Grab	Characterization
	VP 52-Characterization	Soil	36	Grab	Characterization
	VP 54-Characterization	Soil	36	Grab	Characterization

Table 2. Second Quarter 2004 Sample Summary

Property Category	Sampling Event Name	Sample Matrix	Count	Sample Type	Purpose
SLAPS VP	VP 55-Characterization	Soil	23	Grab	Characterization
	VP 60-Characterization	Soil	1	Grab	Characterization
	VP 62-Characterization	Soil	1	Grab	Characterization
SLDS	Environmental TLDs-Environmental Monitoring--1Q2004	Thermoluminescent Dosimeters	5	Grab	Environmental
	Groundwater-Environmental Monitoring--2Q2004	Groundwater	7	Grab	Environmental
	Plant 6W-PDI	Soil	235	Grab	Characterization
	Plant 7N-PDI	Soil	42	Grab	Characterization
	Plant 7S-PDI	Soil	8	Grab	Characterization
	Plant 7W-PDI	Soil	36	Grab	Characterization
	SLDS Waste Characterization	Soil	2	Grab	Characterization
SLDS VP	City of Venice-Characterization	Soil	8	Grab	Characterization
	Gunther Salt North-PDI	Soil	21	Grab	Characterization
	Gunther Salts South-PDI	Soil	97	Grab	Characterization
	Midtown Garage (DT 29)-Characterization	Soil	3	Grab	Characterization
	Midtown Garage (DT 29)-Characterization	Soil	8	Grab	Characterization
	Terminal Railroad Association (DT-9)-Characterization	Soil	28	Grab	Characterization
	Thomas & Proetz Lumber Company (DT-10)-Verification-Class 1	Soil	1	Grab	Characterization
	West of Broadway (DT 26)-Characterization	Soil	46	Grab	Characterization

ATTACHMENT A

**NPDES QUARTERLY DISCHARGE MONITORING REPORT
FOR THE NORTH COUNTY SITE**



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
8945 LATTY AVENUE
BERKELEY, MISSOURI 63134

REPLY TO
ATTENTION OF:

July 23, 2004

Formerly Utilized Sites Remedial Action Program

SUBJECT: Second Quarter 2004 Discharge Report for NPDES Permit MO-0111252 and
Applicable or Relevant and Appropriate Requirements (ARARs) for Discharges to the Waters of
the State at the St. Louis Airport Site (SLAPS), St. Louis, MO

Mr. Kurt Riebeling
Chief, Water Unit
Missouri Department of Natural Resources
7545 South Lindbergh, Suite 210
St. Louis, Missouri 63125

Dear Mr. Riebeling:

In accordance with the substantive requirements for storm-water discharge to waters of the state at the St. Louis Airport Site (SLAPS), St. Louis, MO, this letter transmits the storm-water discharge monitoring report for the second quarter of 2004. Enclosed are the analytical results for storm-water Outfalls 001 and 002 at SLAPS.

During the second quarter of 2004 there were three rainfall events, numbered as Events 1 through 3. Event 4 from the first quarter is included in this report. There are no exceedances to report per the monitoring requirements of the permit.

COD monitoring has been modified from quarterly to annually per email from Mr. Philip Schroeder to Ms. Elizabeth Pitrolo and the letter from Ms. Sharon Cotner to Mr. Philip Schroeder. As of January 2004, Outfalls 001a and 001b are now a single discharge point simply called Outfall 001.

If you have any questions concerning this report, please contact me at (314) 260-3905.

Sincerely,

Ms. Sharon Cotner
Program Manager

Enclosures

Second Quarter 2004 - St. Louis Airport Site (SLAPS), St. Louis, MO
Discharge Monitoring Report

FACILITY NAME	PERMIT NUMBER	COUNTY	OWNER	FACILITY CONTACT
St. Louis Airport Site (SLAPS) ¹	No permit exists, currently working to the ARAR provided 10/02/98	St. Louis	St. Louis Airport Authority	S.R. Cotner, Program Manager, USACE
OPERATOR OF FACILITY		TYPE OF FACILITY		
United States Army Corps of Engineers (USACE)		Standard Industrial Classification-9999, non-classifiable		
REQUIRED FREQUENCY OF MONITORING				THIS REPORT COVERS
Flow-monthly, 24 hour estimate; Effluent Parameters- Chemical and radiological ^{2a,b} : monthly during rainfall that results in a discharge; Radiological ³ : per rainfall event that results in a discharge; Radon-semi-annually during rainfall that results in a discharge; Monitoring Report-quarterly				2nd Quarter - April 1, 2004 to June 30, 2004
SAMPLES COLLECTED BY: Baywest, Shaw and Pangen personnel				
ANALYSIS PERFORMED BY: ARDL (chemical analyses); St. Louis Sites Radioanalytical Laboratory (radiological analyses); General Engineering Laboratories (radon in water analyses)				
SAMPLE LOCATION ¹⁷	EVENT ⁴ 4 ¹⁶	EVENT 1	EVENT 2	EVENT 3
Outfall 001 ¹⁵	03/29/04 - 03/31/04	04/29/04 - 05/06/04	05/17/04 - 05/20/04	05/26/04 - 06/03/04
Outfall 002	s	s	05/19/04 - 05/20/04	s
REPORT APPROVED BY OWNER <i>Sharon Cotner in my capacity as Project Mgr. for + on behalf of USACE</i>			DATE 7/26/04	

NOTES: (NUMBERING SYSTEM HAS BEEN KEPT CONSISTENT ON EACH PAGE TO REDUCE CONFUSION)

¹ SLAPS is a CERCLA NPL site.

^{2a} Collect monthly grab samples for the following parameters: oil and grease, total petroleum hydrocarbons, pH, settleable solids, total recoverable arsenic, total recoverable lead, total recoverable chromium, total recoverable copper, total recoverable cadmium, polychlorinated biphenyls, total uranium, total radium, total thorium, gross alpha, gross beta, protactinium-231, and actinium-227.

^{2b} As per letter from Sharon Cotner dated 11/18/03, chemical oxygen demand sampling requirement has been reduced from quarterly to annual sampling.

³ Collect grab samples per rainfall event for the following parameters: total uranium, total radium, total thorium, gross alpha, gross beta, protactinium-231, and actinium-227.

⁴ An event is defined as a measurable increase in discharge rate from precipitation producing 0.1 inch or more of liquid in a 24 hour period, or from pumping operation (such as following treatment). An event may exceed duration of 24 hours, and two events experienced within 48 hours may be reported together.

⁵ As per MDNR letter from Matthew Sikes addressed to Sharon Cotner dated 02/19/02, sampling at outfall 002 has been reduced to once a year.

⁶ ND = No Discharge

⁷ Results are reported in required units.

⁸ DL = Detection Limit

⁹ Value reported is based on a volume weighted average of analyte activity concentrations for samples collected during the defined event. Corresponding radiological samples were collected on the same date as chemical samples, however, the radiological results are incorporated into the volume weighted average for the specified event.

¹⁰ As specified in the permit, radionuclides require monitoring only, and limits are not permit specified.

¹¹ Total nuclide values in ug/L units were calculated using the activity concentration values reported by the laboratory and values for specific activity listed in Table 8.4.1 of The Health Physics and Radiological Health Handbook, 1992 Edition

¹² It is assumed that Ra-228 and Th-228 are in secular equilibrium with Th-232, therefore, Th-232 results are used to estimate Ra-228 and Th-228 values.

¹³ These samples will be included in the next report.

¹⁴ NS = not sampled during this reporting period. Semi-annual reporting requirement only.

¹⁵ As per January 2004, Outfalls 001a and 001b are considered a single discharge point now called Outfall 001.

¹⁶ Event 4 was not included in 1st Quarter NPDES Report.

¹⁷ Outfall 003 is no longer being included in this report since it was discontinued.

¹⁸ No chemical sample was taken in the month of June since Event 3 occurred at the end of May.

**Second Quarter 2004 - Storm-water Discharge Monitoring Report
St. Louis Airport Site (SLAPS), St. Louis, MO**

MONITORING PARAMETER	FINAL EFFLUENT LIMITATIONS		UNITS ⁷	ANALYTICAL RESULTS				SAMPLE TYPE	REMARKS and COMMENTS
	Daily Maximum	Monthly Average		Outfall 001 ¹⁵					
				Chemical Parameters					
			March	April	May	June ¹⁸			
Flow	Monitor only	Monitor only	MGD	0.2	0.04	0.2	1 ¹⁶	24-hr estimate	
Oil and Grease	15	10	mg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	
Total Petroleum Hydrocarbons	10	10	mg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	
pH-Units	6.0-9.0	NA	SU	7.9	7.9	6.8	1 ¹⁶	Grab	
Chemical Oxygen Demand ¹⁸	120	90	mg/L	1 ¹⁶	1 ¹⁶	1 ¹⁶	1 ¹⁶	Grab	Annual monitoring
Settleable Solids	1.5	1	mL/L/hr	non-detect	non-detect	non-detect	1 ¹⁶	Grab	DL ¹⁷ = 0.1 mL/L/hr
Arsenic, Total Recoverable	100	100	µg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	
Lead, Total Recoverable	190	190	µg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	
Chromium, Total Recoverable	280	280	µg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	
Copper, Total Recoverable	84	84	µg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	
Cadmium, Total Recoverable	94	94	µg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	
Polychlorinated Biphenyls	No release	No release	µg/L	non-detect	non-detect	non-detect	1 ¹⁶	Grab	DL ¹⁷ = 0.1 mL/L/hr
				Radiological Parameters ^{9,11}				SAMPLE TYPE	REMARKS and COMMENTS
				Event 4	Event 1	Event 2	Event 3		
Uranium, Total ^{10,11}	Monitor only	Monitor only	µg/L	3.9E+01	2.8E+01	5.8E+01	6.6E+01	Grab	Calculated estimates
Radium, Total ^{10,11}	Monitor only	Monitor only	µg/L	8.E-08	5.E-08	7.E-07	1.E-06	Grab	Calculated estimates
Thorium, Total ^{10,11}	Monitor only	Monitor only	µg/L	8.E-01	5.E+00	2.E+00	5.E+00	Grab	Calculated estimates
Gross Alpha ¹⁰	Monitor only	Monitor only	pCi/L	3.0E+01	2.E+01	7.E+01	6.E+01	Grab	
Gross Beta ¹⁰	Monitor only	Monitor only	pCi/L	1.E+01	6.E+00	2.E+01	4.E+01	Grab	
Protactinium-231 ¹⁰	Monitor only	Monitor only	pCi/L	2.E+00	2.E+01	0.E+00	0.E+00	Grab	
Actinium-227 ¹⁰	Monitor only	Monitor only	pCi/L	1.E-04	2.E-01	4.E-01	3.E-02	Grab	
Radon (semi-annual monitoring)	Monitor only	Monitor only	pCi/L	NS ¹⁴	NS ¹⁴	NS ¹⁴	NS ¹⁴		
Uranium, Total ^{10,11}	Monitor only	Monitor only	µg/L					Grab	Calculated estimates
Radium, Total ^{10,11}	Monitor only	Monitor only	µg/L					Grab	Calculated estimates
Thorium, Total ^{10,11}	Monitor only	Monitor only	µg/L					Grab	Calculated estimates
Gross Alpha ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Gross Beta ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Protactinium-231 ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Actinium-227 ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Radon (semi-annual monitoring)	Monitor only	Monitor only	pCi/L						

NOTES: (NUMBERING SYSTEM HAS BEEN KEPT CONSISTENT ON EACH PAGE TO REDUCE CONFUSION)

¹ SLAPS is a CERCLA NPL site.

^{2a} Collect monthly grab samples for the following parameters: oil and grease, total petroleum hydrocarbons, pH, settleable solids, total recoverable arsenic, total recoverable lead, total recoverable chromium, total recoverable copper, total recoverable cadmium, polychlorinated biphenyls, total uranium, total radium, total thorium, gross alpha, gross beta, protactinium-231, and actinium-227.

^{2b} As per letter from Sharon Cotner dated 11/18/03, chemical oxygen demand sampling requirement has been reduced from quarterly to annual sampling.

³ Collect grab samples per rainfall event for the following parameters: total uranium, total radium, total thorium, gross alpha, gross beta, protactinium-231, and actinium-227.

⁴ An event is defined as a measurable increase in discharge rate from precipitation producing 0.1 inch or more of liquid in a 24 hour period, or from pumping operation (such as following treatment). An event may exceed duration of 24 hours, and two events experienced within 48 hours may be reported together.

⁵ As per MDNR letter from Matthew Sikes addressed to Sharon Cotner dated 02/19/02, sampling at outfall 002 has been reduced to once a year.

⁶ ND = No Discharge

⁷ Results are reported in required units.

⁸ DL = Detection Limit

⁹ Value reported is based on a volume weighted average of analyte activity concentrations for samples collected during the defined event. Corresponding radiological samples were collected on the same date as chemical samples, however, the radiological results are incorporated into the volume weighted average for the specified event.

¹⁰ As specified in the permit, radionuclides require monitoring only, and limits are not permit specified.

¹¹ Total nuclide values in µg/L units were calculated using the activity concentration values reported by the laboratory and values for specific activity listed in Table 8.4.1 of The Health Physics and Radiological Health Handbook, 1992 Edition

¹² It is assumed that Ra-228 and Th-228 are in secular equilibrium with Th-232, therefore, Th-232 results are used to estimate Ra-228 and Th-228 values.

¹³ These samples will be included in the next report.

¹⁴ NS = not sampled during this reporting period. Semi-annual reporting requirement only.

¹⁵ As per January 2004, Outfalls 001a and 001b are considered a single discharge point now called Outfall 001.

¹⁶ Event 4 was not included in 1st Quarter NPDES Report.

¹⁷ Outfall 003 is no longer being included in this report since it was discontinued.

¹⁸ No chemical sample was taken in the month of June since Event 3 occurred at the end of May.

**Second Quarter 2004 - [REDACTED] Water Discharge Monitoring Report
St. Louis Airport Site (SLAPS), St. Louis, MO**

MONITORING PARAMETER	FINAL EFFLUENT LIMITATIONS		UNITS ⁷	ANALYTICAL RESULTS				SAMPLE TYPE	REMARKS and COMMENTS
	Daily Maximum	Monthly Average		Outfall 002					
				Chemical Parameters					
			March	April	May	June			
Flow	Monitor only	Monitor only	MGD	3	3	0.2	3	24-hr estimate	
Oil and Grease	15	10	mg/L	3	3	non-detect	3	Grab	
Total Petroleum Hydrocarbons	10	10	mg/L	3	3	non-detect	3	Grab	
pH-Units	6.0-9.0	NA	SU	3	3	6.5	3	Grab	
Chemical Oxygen Demand ¹⁸	120	90	mg/L	3	3	25	3	Grab	Annual monitoring
Settleable Solids	1.5	1	mL/L/hr	3	3	non-detect	3	Grab	DL ⁸ = 0.1 mL/L/hr
Arsenic, Total Recoverable	100	100	µg/L	3	3	non-detect	3	Grab	
Lead, Total Recoverable	190	190	µg/L	3	3	non-detect	3	Grab	
Chromium, Total Recoverable	280	280	µg/L	3	3	non-detect	3	Grab	
Copper, Total Recoverable	84	84	µg/L	3	3	non-detect	3	Grab	
Cadmium, Total Recoverable	94	94	µg/L	3	3	non-detect	3	Grab	
Polychlorinated Biphenyls	No release	No release	µg/L	3	3	non-detect	3	Grab	DL ⁸ = 0.1 mL/L/hr
				Radiological Parameters ^{9,12}					REMARKS and COMMENTS
				Event 4	Event 1	Event 2	Event 3	SAMPLE TYPE	
Uranium, Total ^{10,11}	Monitor only	Monitor only	µg/L	3	3	4.E+00	3	Grab	Calculated estimates
Radium, Total ^{10,11}	Monitor only	Monitor only	µg/L	3	3	1.E-06	3	Grab	Calculated estimates
Thorium, Total ^{10,11}	Monitor only	Monitor only	µg/L	3	3	5.E+00	3	Grab	Calculated estimates
Gross Alpha ¹⁰	Monitor only	Monitor only	pCi/L	3	3	6.E-01	3	Grab	
Gross Beta ¹⁰	Monitor only	Monitor only	pCi/L	3	3	5.E+00	3	Grab	
Protactinium-231 ¹⁰	Monitor only	Monitor only	pCi/L	3	3	2.E-01	3	Grab	
Actinium-227 ¹⁰	Monitor only	Monitor only	pCi/L	3	3	0.E+00	3	Grab	
Radon (semi-annual monitoring)	Monitor only	Monitor only	pCi/L	NS ¹⁴	NS ¹⁴	non-detect	NS ¹⁴		
Uranium, Total ^{10,11}	Monitor only	Monitor only	µg/L					Grab	Calculated estimates
Radium, Total ^{10,11}	Monitor only	Monitor only	µg/L					Grab	Calculated estimates
Thorium, Total ^{10,11}	Monitor only	Monitor only	µg/L					Grab	Calculated estimates
Gross Alpha ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Gross Beta ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Protactinium-231 ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Actinium-227 ¹⁰	Monitor only	Monitor only	pCi/L					Grab	
Radon (semi-annual monitoring)	Monitor only	Monitor only	pCi/L						

NOTES: (NUMBERING SYSTEM HAS BEEN KEPT CONSISTENT ON EACH PAGE TO REDUCE CONFUSION)

¹ SLAPS is a CERCLA NPL site.

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^{2b} As per letter from Sharon Cotner dated 11/18/03, chemical oxygen demand sampling requirement has been reduced from quarterly to annual sampling.

³ Collect grab samples per rainfall event for the following parameters: total uranium, total radium, total thorium, gross alpha, gross beta, protactinium-231, and actinium-227.

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¹⁰ As specified in the permit, radionuclides require monitoring only, and limits are not permit specified.

¹¹ Total nuclide values in µg/L units were calculated using the activity concentration values reported by the laboratory and values for specific activity listed in Table 8.4.1 of The Health Physics and Radiological Health Handbook, 1992 Edition

¹² It is assumed that Ra-228 and Th-228 are in secular equilibrium with Th-232, therefore, Th-232 results are used to estimate Ra-228 and Th-228 values.

¹³ These samples will be included in the next report.

¹⁴ NS = not sampled during this reporting period. Semi-annual reporting requirement only.

¹⁵ As per January 2004, Outfalls 001a and 001b are considered a single discharge point now called Outfall 001.

¹⁶ Event 4 was not included in 1st Quarter NPDES Report.

¹⁷ Outfall 003 is no longer being included in this report since it was discontinued.

¹⁸ No chemical sample was taken in the month of June since Event 3 occurred at the end of May.

2004 2nd Quarter SLAPS Rainfall Data

Date	(inches)	Outfall	Outfall
2004	24-hour total	001*	002**
1-Apr	0.00		
2-Apr	0.00		
3-Apr	Trace		
4-Apr	0.00		
5-Apr	0.00		
6-Apr	Trace		
7-Apr	0.00		
8-Apr	0.00		
9-Apr	0.00		
10-Apr	0.18		
11-Apr	0.00		
12-Apr	0.00		
13-Apr	0.00		
14-Apr	0.00		
15-Apr	Trace		
16-Apr	0.00		
17-Apr	0.00		
18-Apr	0.00		
19-Apr	0.00		
20-Apr	0.06		
21-Apr	Trace		
22-Apr	0.21		
23-Apr	0.00		
24-Apr	0.75		
25-Apr	0.00		
26-Apr	0.00		
27-Apr	0.00		
28-Apr	Trace		
29-Apr	0.03	0.04	
30-Apr	0.71		
Monthly Average		0.001	

Date	(inches)	Outfall	Outfall
2004	24-hour total	001*	002**
1-May	0.69		
2-May	0.05		
3-May	0.00	0.12	
4-May	Trace	0.12	
5-May	0.00	0.12	
6-May	0.00	0.05	
7-May	0.00		
8-May	0.00		
9-May	0.00		
10-May	0.03		
11-May	0.00		
12-May	0.05		
13-May	1.53		
14-May	0.62		
15-May	0.00		
16-May	0.00		
17-May	0.00	0.19	
18-May	0.36	0.18	
19-May	1.10	0.23	0.24
20-May	0.00	0.11	0.01
21-May	0.00		
22-May	0.00		
23-May	0.02		
24-May	0.17		
25-May	0.76		
26-May	0.95	0.07	
27-May	2.09	0.24	
28-May	0.00	0.37	
29-May	0.00	0.48	
30-May	1.18	0.14	
31-May	0.15		
Monthly Average		0.078	0.008

Date	(inches)	Outfall	Outfall
2004	24-hour total	001*	002**
1-Jun	Trace	0.28	
2-Jun	0.00	0.12	
3-Jun	0.00	0.05	
4-Jun	0.00		
5-Jun	0.00		
6-Jun	0.00		
7-Jun	0.00		
8-Jun	0.00		
9-Jun	0.31		
10-Jun	0.02		
11-Jun	0.00		
12-Jun	0.01		
13-Jun	0.03		
14-Jun	0.00		
15-Jun	Trace		
16-Jun	0.23		
17-Jun	0.00		
18-Jun	0.11		
19-Jun	0.00		
20-Jun	0.00		
21-Jun	0.09		
22-Jun	0.01		
23-Jun	0.00		
24-Jun	0.00		
25-Jun	0.00		
26-Jun	0.00		
27-Jun	Trace		
28-Jun	0.02		
29-Jun	0.00		
30-Jun	0.00		
Monthly Average		0.015	

Notes:

Flow measurements for the two outfalls are reported in million gallons per day (MGD) and reported to two significant digits. All blank spaces represent zero flow.

Rainfall data is obtained from the National Weather Service Station at Lambert-St. Louis International Airport.

* A flow meter and automatic sampler are currently installed at Outfall 001. As per January 2004, Outfalls 001a and 001b are considered a single discharge point now called Outfall 001.

** Outfall 002 is sampled annually per MDNR letter dated 2/19/02, as a result flow is not measured until a sample is collected.

ATTACHMENT B

MSD QUARTERLY SELF-MONITORING REPORT FOR SLS FUSRAP



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
8945 LATTY AVENUE
BERKELEY, MISSOURI 63134
July 23, 2004

REPLY TO
ATTENTION OF:
Formerly Utilized Sites Remedial Action Program

Subject: Quarterly Metropolitan Sewer District (MSD) Self-Monitoring Report for April through June 2004, St. Louis Sites

Mr. Roland Biehl
St. Louis Metropolitan Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, Missouri 63147-2913

Dear Mr. Biehl:

The U.S. Army Corps of Engineers (USACE) is submitting the April through June 2004 quarterly self-monitoring report in Calendar Year 2004 for the St. Louis Sites. During this quarter, eleven (11) batches of wastewater from the St. Louis Airport Site (SLAPS) were discharged to the Metropolitan Sewer District (MSD). There were no discharges during this quarter from the St. Louis Downtown Site (SLDS) to MSD.

Eleven batches, SLAPS-014 through -024, totaling 1,954,698 gallons of wastewater were discharged in the quarter. The quarter's discharges exhibited a total activity of $4.8\text{E-}05$ curies for thorium; $2.4\text{E-}03$ curies for uranium (natural); and $2.0\text{E-}05$ curies for radium. The table below provides the discharge volumes in thousands of gallons for each batch from particular SLAPS' phase areas. Batch 23 was derived from SLAPS rainwater runoff from across the site, and consisted of 179,588 gallons. The eleven batches were below the MSD limit for barium, lead and selenium values. Batches 16, 18, 20, 22 and 24 were above the BOD and COD limits; therefore both limits' surcharges will apply for the noted batches' volumes. Data for each discharge is presented on the attached pages for your review.

Batch (-0xx)	14	15	16	17	18	19	20	21	22	23	24
Phase Area	2, 6	6	2, 3	6	2, 3	6	2, 3	4,5,6	2	r r*	3, 4
Discharge (1,000s gal)	96.9	116.1	174.5	40.2	158.5	155.4	182.1	505.6	173.2	179.6	172.5

r r* - site-wide rainwater runoff

Should you have any comments or questions regarding this letter, please feel free to contact either Dr. Greg Hempen at (314) 260-3939 or Mr. Ron Frerker at (314) 260-3936.

Sincerely,

Sharon R. Cotner
FUSRAP Program Manager

Enclosures

FUSRAP SLAPS
Self Monitoring Report for 2nd Quarter

Parameter	Batch Number	Date of Discharge	Batch Results	Amount Discharged (Gallons)	Total Activity per Discharge (Ci)	MSD Limits	10CFR20 Sum of the Ratios
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-014	03/29/04 - 04/02/04 (Phase 2 & 6)	762 pCi/L 159 pCi/L <1.9 pCi/L 7.0 pCi/L 817 pCi/L 2.4 pCi/L <1.9 pCi/L 0.10 mg/L <3.0 mg/L 0.15 mg/L mg/L mg/L 82 8.4 mg/L	96,930	2.8E-04 5.8E-05 3.7E-07 2.6E-06 3.0E-04 8.8E-07 3.7E-07 30 mg/L	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.06
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226(5) RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-015	05/03/04 - 05/06/04 (Phase 6)	734 pCi/L 154 pCi/L <1.3 pCi/L 6.1 pCi/L 722 pCi/L 2.9 pCi/L <1.3 pCi/L 0.10 mg/L 0.004 mg/L 0.14 mg/L mg/L mg/L 54 12 mg/L	116,133	3.2E-04 6.8E-05 2.7E-07 2.7E-06 3.2E-04 1.3E-06 2.7E-07 30 mg/L	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.06
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-016	05/11/04 - 05/20/04 (Phase 2 & 3)	12 pCi/L <12 pCi/L 1.1 pCi/L 1.1 pCi/L 15 pCi/L <2.0 pCi/L 1.1 pCi/L 0.024 mg/L 0.004 mg/L 0.073 mg/L 5380.00 mg/L 7000.00 mg/L 10 21 mg/L	174,541	7.9E-06 4.4E-06 7.3E-07 7.3E-07 9.9E-06 6.6E-07 7.3E-07 30 mg/L	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-017	(5/20/04 - 5/24/04) (Phase 6)	662 pCi/L 77 pCi/L 1.4 pCi/L 10 pCi/L 735 pCi/L 4.3 pCi/L 1.4 pCi/L 0.16 mg/L 0.013 mg/L 0.10 mg/L mg/L mg/L 60 20 mg/L	40,177	1.0E-04 1.2E-05 2.1E-07 1.5E-06 1.1E-04 6.5E-07 2.1E-07 30 mg/L	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05
Gross Alpha (raw water) Gross Beta TH-228(4) TH-230(4) Uranium (Nat) RA-226(4) RA-228(1)(4) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-018	(5/20/04 - 5/27/04) (Phase 2 & 3)	38 pCi/L 15 pCi/L <10 pCi/L <10 pCi/L 36 pCi/L <10 pCi/L <10 pCi/L 0.016 mg/L 0.026 mg/L 0.087 mg/L 2340.00 mg/L 1800.00 mg/L 27 40 mg/L	158,522	2.3E-05 9.0E-06 2.2E-05 30 mg/L	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05

FUSRAP SLAPS
Self Monitoring Report for 2nd Quarter

Parameter	Batch Number	Date of Discharge	Batch Results	Amount Discharged (Gallons)	Total Activity per Discharge (Ci)	MSD Limits	10CFR20 Sum of the Ratios
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-019	5/26/04 - 5/30/04 (Phase 6)	641 pCi/L 115 pCi/L 1.2 pCi/L 35 pCi/L 677 pCi/L 6.0 pCi/L 1.2 pCi/L 0.11 mg/L 0.022 mg/L 0.081 mg/L mg/L mg/L 52 16 mg/L	155,359	3.8E-04 6.8E-05 7.1E-07 2.1E-05 4.0E-04 3.5E-06 7.1E-07	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-020	05/25/04 - 6/3/04 (Phase 2 & 3)	41 pCi/L <12 pCi/L <1.6 pCi/L <1.3 pCi/L 15 pCi/L <2.0 pCi/L <1.6 pCi/L 0.022 mg/L 0.013 mg/L 0.10 mg/L 885.00 mg/L 2000.00 mg/L 27 31 mg/L	182,139	2.8E-05 7.6E-06 6.9E-07 6.9E-07 1.0E-05 6.9E-07 6.9E-07	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-021	6/1/04 - 6/7/04 (Phase 4, 5 & 6)	546 pCi/L 111 pCi/L 1.4 pCi/L 2.2 pCi/L 523 pCi/L 0.96 pCi/L 1.4 pCi/L 0.044 mg/L 0.020 mg/L 0.085 mg/L mg/L mg/L <46 10 mg/L	505,621	1.0E-03 2.1E-04 2.7E-06 4.2E-06 1.0E-03 1.8E-06 2.7E-06	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-022	6/2/04 - 6/6/04 (Phase 2)	22 pCi/L <12 pCi/L <0.53 pCi/L 3.1 pCi/L 10 pCi/L <1.3 pCi/L <0.53 pCi/L 0.026 mg/L 0.022 mg/L 0.082 mg/L 2558.00 mg/L 3600.00 mg/L 3.0 19 mg/L	173,189	1.4E-05 9.2E-06 1.8E-07 2.0E-06 6.6E-06 4.4E-07 1.8E-07	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05
Gross Alpha (raw water) Gross Beta TH-228 TH-230 Uranium (Nat) RA-226 RA-228(1) Barium Lead Selenium BOD(2) COD(2) Gross Alpha (TSS filter pad) Total Suspended Solids	SLAPS-023	6/1/04 - 6/16/04 (Rain water)	363 pCi/L 43 pCi/L <4.1 pCi/L <1.9 pCi/L 280 pCi/L 1.7 pCi/L <4.1 pCi/L 0.009 mg/L 0.022 mg/L 0.10 mg/L 11.00 mg/L 30.00 mg/L <10 39 mg/L	179,588	2.5E-04 2.9E-05 1.4E-06 6.8E-07 1.9E-04 1.2E-06 1.4E-06	3000 pCi/L N/A pCi/L 2000 pCi/L 1000 pCi/L 3000 pCi/L 10 pCi/L 30 pCi/L 10 mg/L 0.40 mg/L 0.20 mg/L 30 mg/L	0.05

Self Monitoring Report for 2nd Quarter

Parameter	Batch Number	Date of Discharge	Batch Results	Amount Discharged (Gallons)	Total Activity per Discharge (Ci)	MSD Limits	10CFR20 Sum of the Ratios
Gross Alpha (raw water)	SLAPS-024	6/7/04 - 6/16/04 (Phase 3 & 4)	123 pCi/L	172,499	8.0E-05	3000 pCi/L	0.05
Gross Beta			45 pCi/L		2.9E-05	N/A pCi/L	
TH-228			1.3 pCi/L		8.5E-07	2000 pCi/L	
TH-230			6.3 pCi/L		4.1E-06	1000 pCi/L	
Uranium (Nat)			95 pCi/L		6.2E-05	3000 pCi/L	
RA-226			<3.0 pCi/L		9.1E-07	10 pCi/L	
RA-228(1)			1.3 pCi/L		8.5E-07	30 pCi/L	
Barium			0.018 mg/L			10 mg/L	
Lead			0.022 mg/L			0.40 mg/L	
Selenium			0.11 mg/L			0.20 mg/L	
BOD(2)			727.00 mg/L				
COD(2)			1200.00 mg/L				
Gross Alpha (TSS filter pad)			116				
Total Suspended Solids			61 mg/L			30 mg/L	

NOTES:

1. Ra-228 assumed to be in equilibrium with Th-228
2. MSD surcharges apply for BOD concentrations greater than 300 mg/l and COD concentrations greater than 600 mg/l.
3. Non detect sample results are converted to half the detection limit.
4. Isotopics were not run since Gross Alpha and Total U were so close in value.
5. The weighted average was used to calculate the total activity.
NA - Not applicable since BOD and COD only has to be run on treated water.

Total Activity Discharged in 2nd Quarter (Ci)

TH-228	8.1E-06
TH-230	4.0E-05
Uranium (Nat)	2.4E-03
RA-226	1.2E-05
RA-228(1)	8.1E-06

Total Volume Discharged in 2nd Quarter (gal)

Gallons	1,954,698
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Total Activity Discharged through 06/30/04 (Ci)

TH-228	8.9E-06
TH-230	4.3E-05
Uranium (Nat)	2.6E-03
RA-226	1.3E-05
RA-228(1)	8.9E-06

Volume Discharged through the CY (gal)

Gallons	2,178,829
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FUSRAP Document Management System

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Further Info?

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Operating Unit

St. Louis Sites

Site

Area

MARKS Number

FN:1110-1-8100g

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Transmittal of Second Quarter (April 1 - June 30, 2004) Calendar Year 2004 Federal Facility Agreement (FFA) Progress Report for the FUSRAP St. Louis Sites

Author/Originator

Sharon Cotner

Company

FUSRAP

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