

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
QUARTERLY
ENVIRONMENTAL MONITORING REPORT
APRIL – JUNE 2003**



US Department of Energy, Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, CO 80403-8200



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Points of Contact:

R. McCallister, (303) 966-9692
Air, Meteorology, Climatology, and Groundwater
Programs
Department of Energy, Rocky Flats Field Office

C. Franklin, (303) 966-5919
Surface Water Programs
Department of Energy, Rocky Flats Field Office

R. Nininger, (303) 966-4663
Environmental Systems & Stewardship
Kaiser-Hill Company, L.L.C.

Contributors:

Ruth Rueter, URS Group, Atmospheric Monitoring
L. Dunstan, Stoller, Sample Support Services
P. Haines, URS Group, Atmospheric Monitoring
R. Henry, URS Group, Water Programs
T. Moser, IE, Water Operations
G. Squibb, URS Group, Water Programs

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PREPARED BY URS GROUP, INC

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HIGHLIGHTS FOR APRIL - JUNE 2003

This report is produced and distributed quarterly as part of the Agencies' ongoing Agreement in Principle and as a forum for the Rocky Flats Cleanup Agreement (RFCA) quarterly monitoring requirement. As discussed at a previous Exchange of Information Meetings, the Site is consolidating its reporting for selected media. In an effort to provide a more meaningful interpretation of the data presented and to save some natural resources, namely trees, the Site will be providing analytical data in the following formats.

Airborne effluent data are represented by a single graph providing cumulative plutonium emissions for 1999, 2000, 2001, 2002, and 2003. Ambient air data are represented by two graphs – a summary of estimated off-site dose as compared to a 10 millirem per year standard, and air concentrations at perimeter sample locations expressed as a percentage of EPA's air concentration-based dose limit for members of the public. Meteorological data are represented by one windrose and a climatic summary for each month in the reporting period.

Surface water data are presented for several purposes. Compliance data are presented in support of the Site National Pollutant Discharge Elimination System (NPDES) permit are presented for the reporting period. Surface water data are also collected in support of RFCA. Stations GS01, GS03, GS08, GS10, GS11, GS31, SW022, SW027, and SW093 are routinely monitored. These data include a hydrograph, mean daily flow and available water quality measurements for each location during the reporting period. Performance monitoring and source detection stations may be reported as locations are added or removed from the program. These additional surface water stations are presented in the same manner as the routine stations. Some locations, like GS32, have no flow monitoring capabilities and only analytical data are provided. A quarterly summary of the incidental waters program is also provided.

Airborne Effluent

Complete isotopic analytical data through April 2003 are included in this report. Consistent with all other uses of these data, only positive values are included in the total release calculation (the negative values are treated as zeros). The uncertainty calculation reflects all data error.

Ambient Air

Isotopic analytical data for the period February through May 2003 for coarse (>10 micrometer aerodynamic equivalent diameter (AED)) and fine (≤10 micrometer AED) ambient air samples are included in this report.

Beginning first quarter 2002, this report now includes an additional section, Demolition and Remediation Performance Monitoring. Two projects began during the 4th quarter 2002: the 903 Pad Remediation Project, which began the week of November 14th, 2002 and is ongoing, and the Solar Pond Remediation Project, which began November 12th, 2002 and was completed by December 12th, 2002. In this report, a graph displaying typical 2nd quarter results from a two-week sample period has been included.

Meteorology and Climatology

Meteorological data are routinely measured from instruments on a 61-meter tower located in the west buffer zone at an elevation of 1,870 meters (6,140 feet) above sea level. All meteorological data are collected on a real-time basis and are transmitted as 15-minute averaged values to the Computer Assisted Protective Action Recommendations System (CAPARS) model for emergency response purposes. The same data are logged at the tower and downloaded for air quality and surface water modeling purposes.

Climatic summaries and wind roses for April, May, and June 2003 are included in this report.

As a result of the protocols used to validate the meteorological data, each 15-minute averaged observation is validated, rather than the entire observation record for the same time period (which might contain 70 different observations – e.g., temperature, wind speed, etc.). Missing data are reported with respect to the wind speed and wind direction values, for example, rather than recording all observations missing for the same 15-minute period.

Surface Water

Surface water analytical data collected during the reporting period for NPDES permit compliance are presented in this report. During the reporting period all NPDES data were within permit limitations except during June 2003 when the plant removal efficiency for carbonaceous biochemical oxygen demand (CBOD) removal was 78% where a minimum of 85% is required. There were no exceedances of the effluent limitation for CBOD during June; the reduction in efficiency is due to influent levels being lower than normally seen. Like March, April had a number of days of heavy precipitation, and the influence of these storm water flows resulted in reduced influent strength. This situation is not uncommon in small flow facilities such as Rocky Flats. Influent strength as expected, returned to more normal levels during the balance of the reporting period.

Additionally, early on June 29, 2003, a fire suppression sprinkler head in Building 371 ruptured; water from the fire suppression system flowed into several rooms, a hallway and a sanitary drain. Because the areas into which the water spilled had the potential for contamination, an operational 'Alert' emergency was declared by the Shift Superintendent. As a precautionary measure discharge from the Sewage Treatment Plant was halted at 0900 hrs on June 29, 2003. Samples were collected in the area of the spill and analyzed. A review of the analytical data showed no contaminants of concern present. Discharge from the Sewage Treatment Plant resumed at 1547 on June 30, 2003.

Also included in this report are water quality data two surface water locations that monitor the Mound Site area. These locations are SW061 and SW132 and are sampled quarterly for isotopic Pu/Am, selected total and dissolved metals, and EPA VOA Method 8260.

Hydrologic Monitoring and Rocky Flats Cleanup Agreement (RFCA) Monitoring

All available analytical data collected during the reporting period from samples supporting RFCA and Hydrologic Monitoring programs are included in this report. During the third quarter of FY03, 213 automated surface-water monitoring composite samples were collected and submitted for analysis.

Reportable 30-day average values for plutonium (Pu) were observed at Point of Evaluation (POE) GS10 for the period from March 9, 2003 through April 3, 2003. The calculated 30-day moving average for americium (Am) was not reportable for the same period. This newest GS10 reportable event is consistent with seasonal water-quality observations made every spring/summer since 1997 at this location, following implementation of RFCA flow-paced monitoring. No new source evaluation is planned due of the repetitive nature of the event, the previously completed comprehensive investigation(s) of the sub drainage basins tributary to GS10, and the Site's commitment to investigate the area as part of the accelerated action evaluation of Pond B-1.

The 30-day moving average values for all other Points of Evaluation (POE) and Points of Compliance (POC) locations were below the RFCA action levels and standards for all monitored analytes.

Incidental Water Monitoring

A summary of Incidental Waters dispositioned during the reporting period are presented in this report.

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1.0 AIR DATA

1.1 EFFLUENT AIR DATA

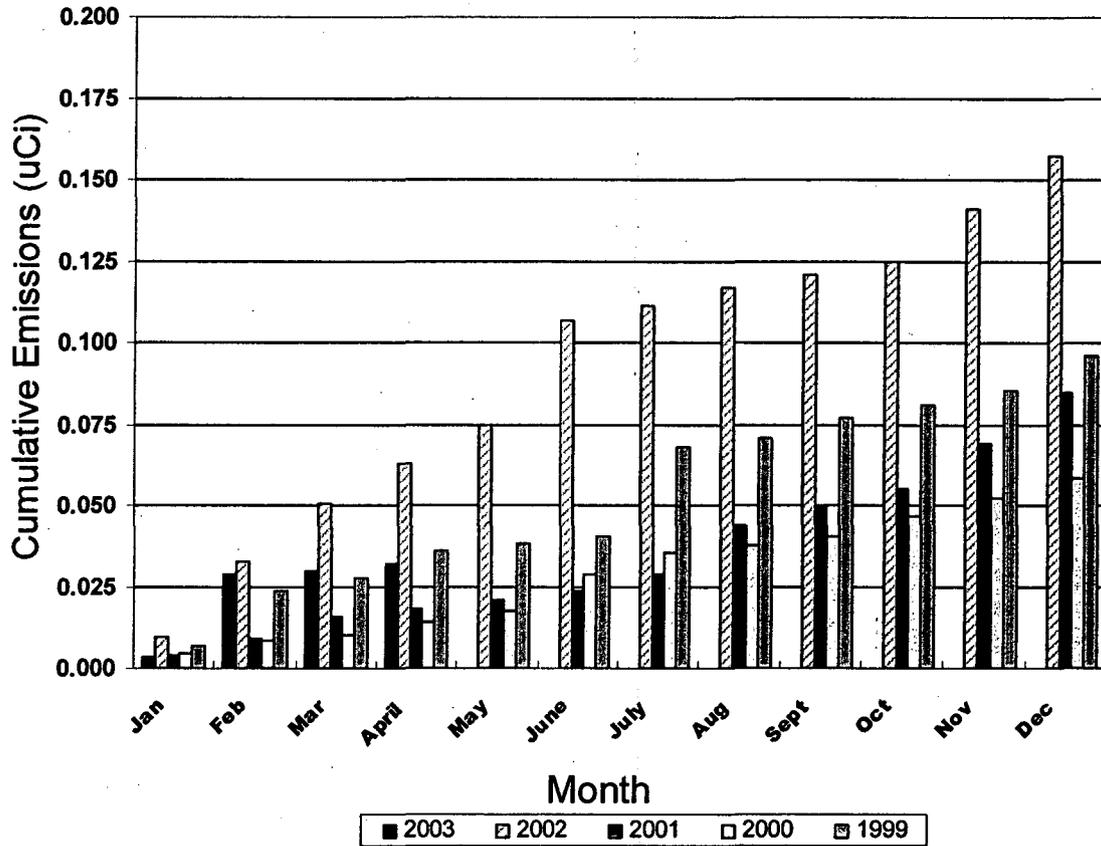
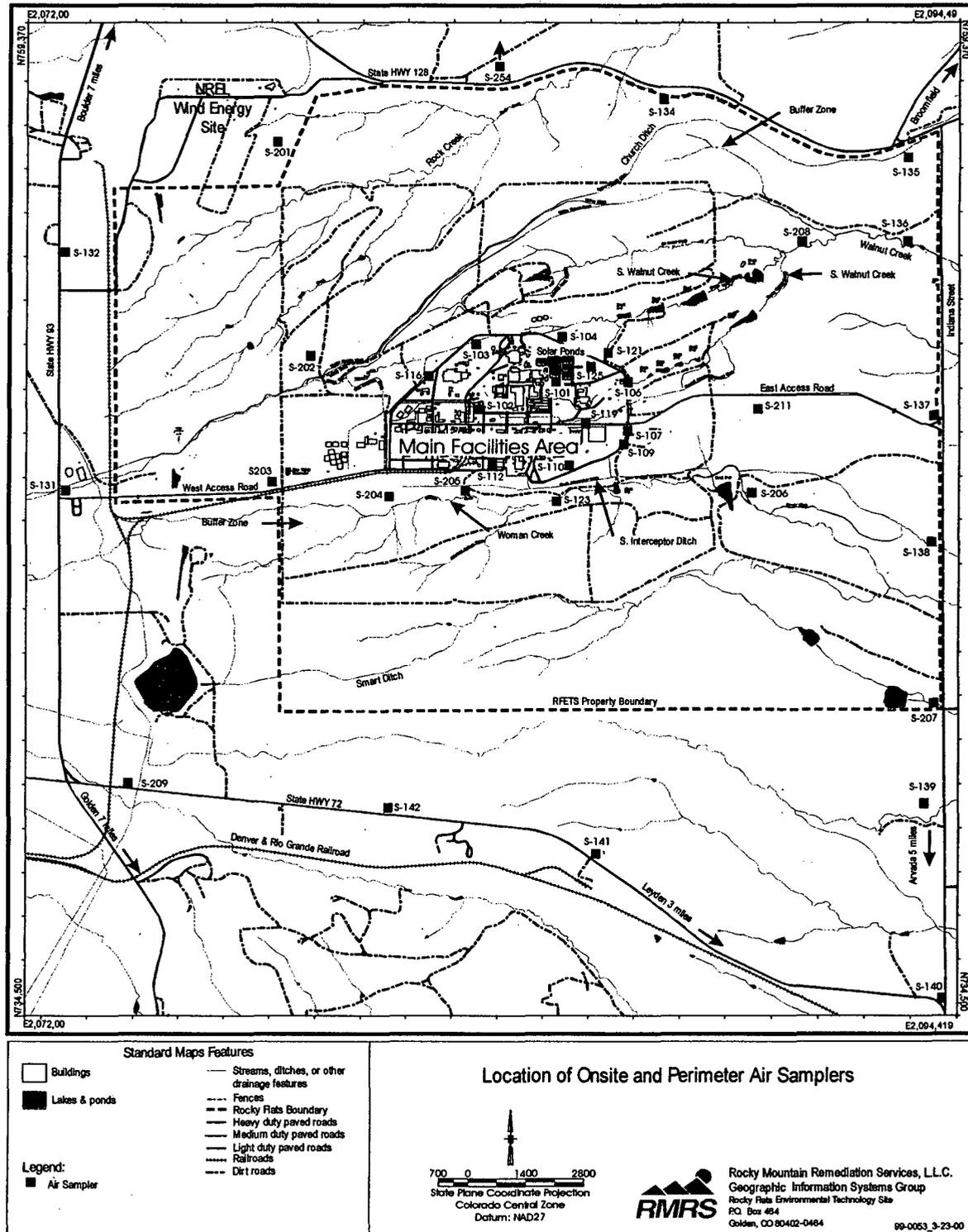


Figure 1-1. Cumulative Plutonium Airborne Effluent Emissions

The above graph shows the cumulative airborne effluent emissions of plutonium from the monitored building stacks. Isotopic results from the most recently analyzed effluent stack samples (February through April 2003) are consistent with the previous three years' measured concentrations, with a cumulative, 2003 year-to-date plutonium emission of 0.032 micro-Curies (μCi).

Figure 1-2. Location of Onsite and Perimeter Air Samplers.



1.2 AMBIENT AIR DATA

1.2.1 Perimeter Sampler Locations

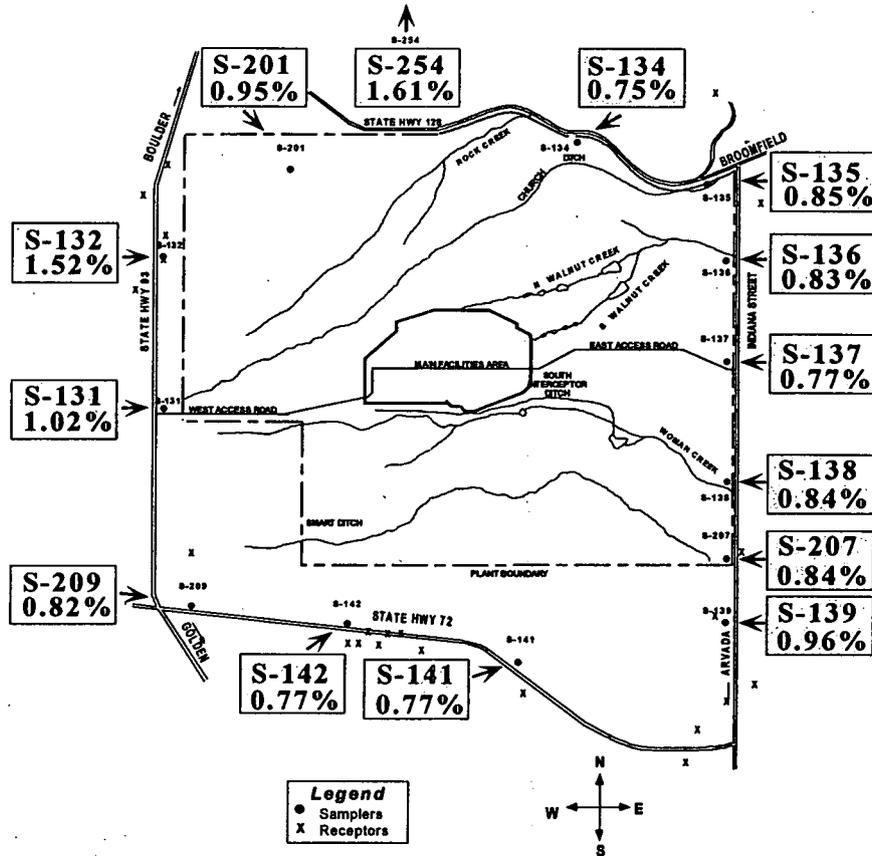


Figure 1-3. Perimeter Samplers Dose Map.

The above map illustrates the perimeter Radioactive Ambient Air Monitoring Program (RAAMP) sampler locations and the 12-month rolling-average maximum potential dose through May 2003, expressed as a percentage of EPA's air concentration-based dose limit for members of the public. The percentage values are based on the measured air concentrations, averaged over the year and converted to a percent of the Rad NESHAP concentration limits.

The percentages include naturally occurring uranium isotopes as well as the isotopes from site contributions. The highest effective dose equivalents (EDEs) in the period February through May 2003 occurred at locations S-254 (February, March, and May 2003) and S-138 (April 2003). The 12-month rolling-average percentages of the Rad NESHAP concentration limit for perimeter samplers, covering the period June 2003 through May 2003, range from 0.75% at S-134 to 1.61% at S-254. These percentages are consistent with previously reported data.

1.2.2 Perimeter Sampler Locations – Dose Rate Graphs

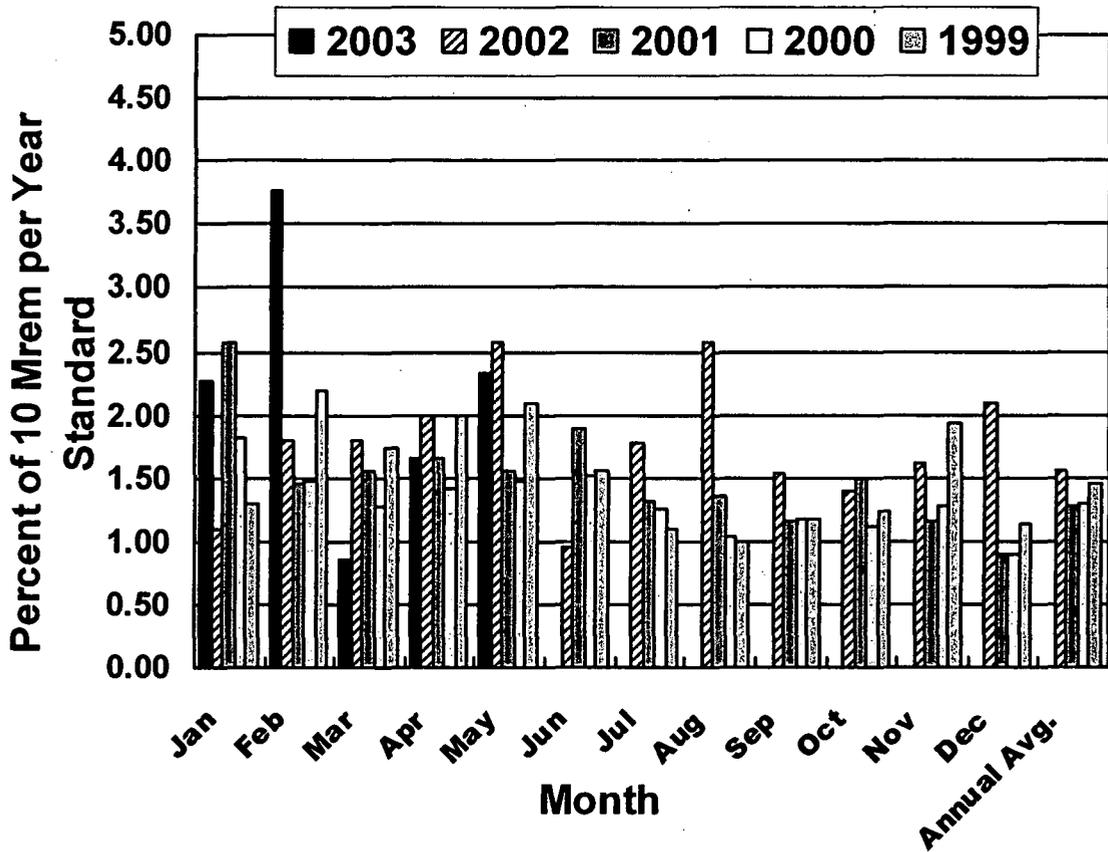


Figure 1-4. Offsite Dose Rate Summary.

The above graph illustrates the monthly estimated maximum potential dose rates at the perimeter sampler showing the highest total radionuclide dose rate, including contributions from naturally occurring uranium isotopes. The highest potential dose rates for February through May 2003 occurred at locations S-254 (February, March, and May 2003) and S-138 (April 2003).

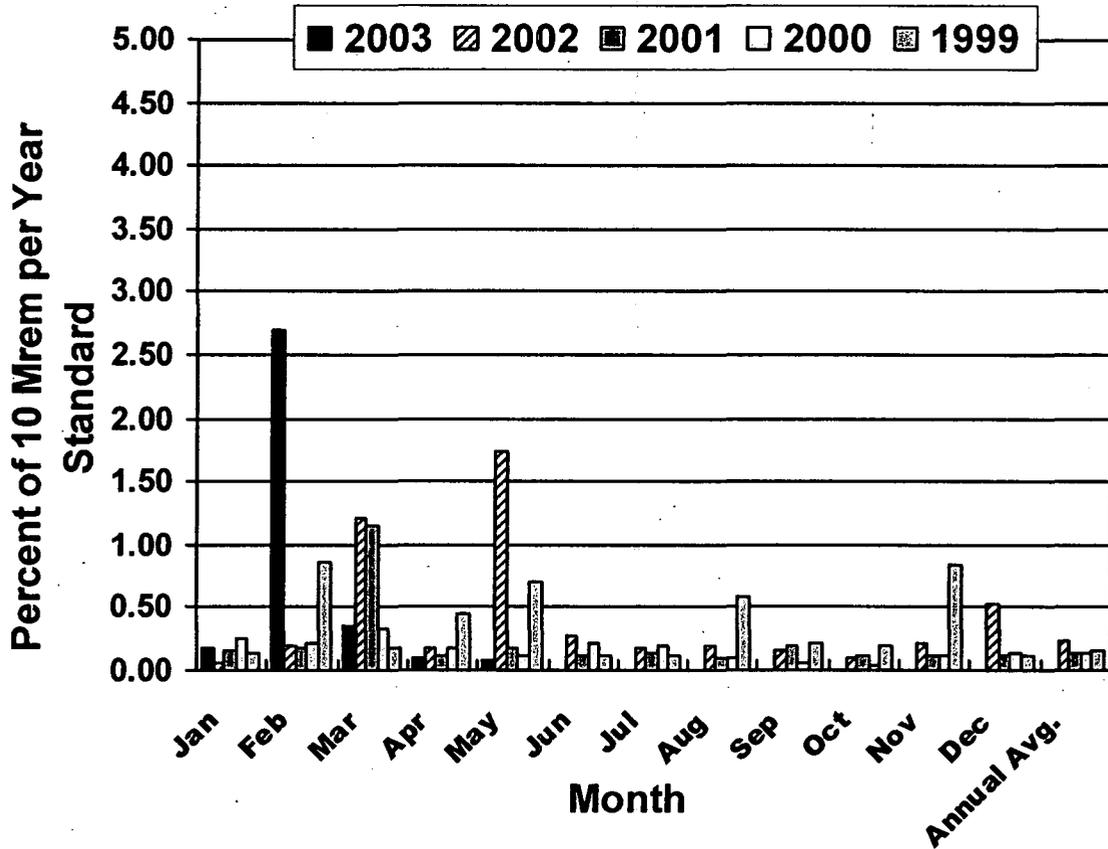


Figure 1-5. Offsite Dose Rate Summary Without U-234 and U-238.

Since the majority of the observed uranium appears to be due to natural soil contributions, omitting the dose contributions from uranium 234 and 238, may better reflect the contribution from Site operations at the same sampling locations. This view shows the maximum potential off-site dose rate, excluding uranium 234 and 238, to be less than 2.7% percent of the 10 mrem standard. The highest potential dose rates for February through May 2003 occurred at locations S-254 (February), S-136 (March), and S-131 (April and May).

Ambient concentrations and dose rates for 2003 are generally consistent with data from 1999 through 2002.

1.2.3 Demolition and Remediation Performance Air Monitoring

In February 2002, the Air Quality Monitoring (AQM) Program began reporting performance monitoring data from ongoing demolition and remediation projects. Performance Monitoring for Radionuclides (PM-Rad) for the 903 Pad Remediation Project began the week of November 14th, 2002 and is ongoing. The Solar Pond Remediation Project was also monitored; the project began November 12th and was completed by December 12th, 2002. This graph is representative of the results for the PM-Rad network locations during a typical two-week period in the 2nd quarter of 2003.

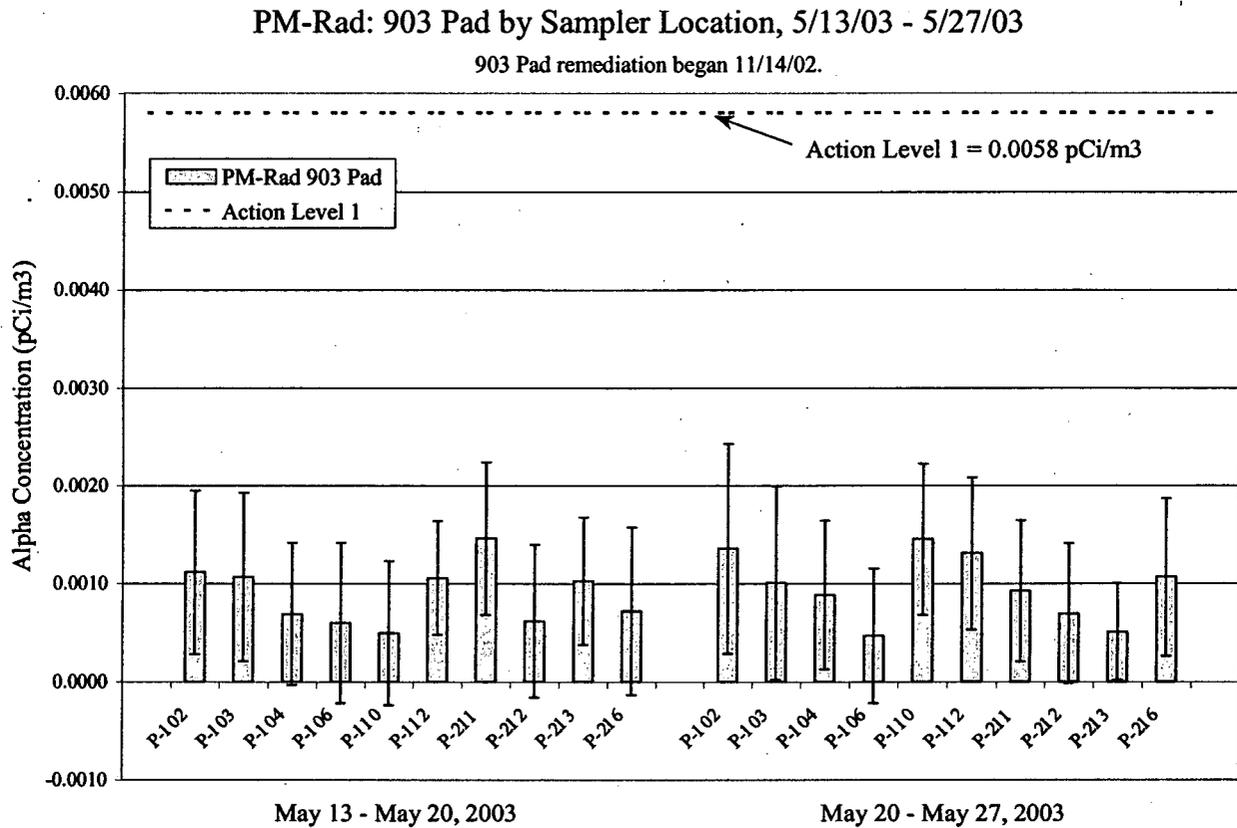


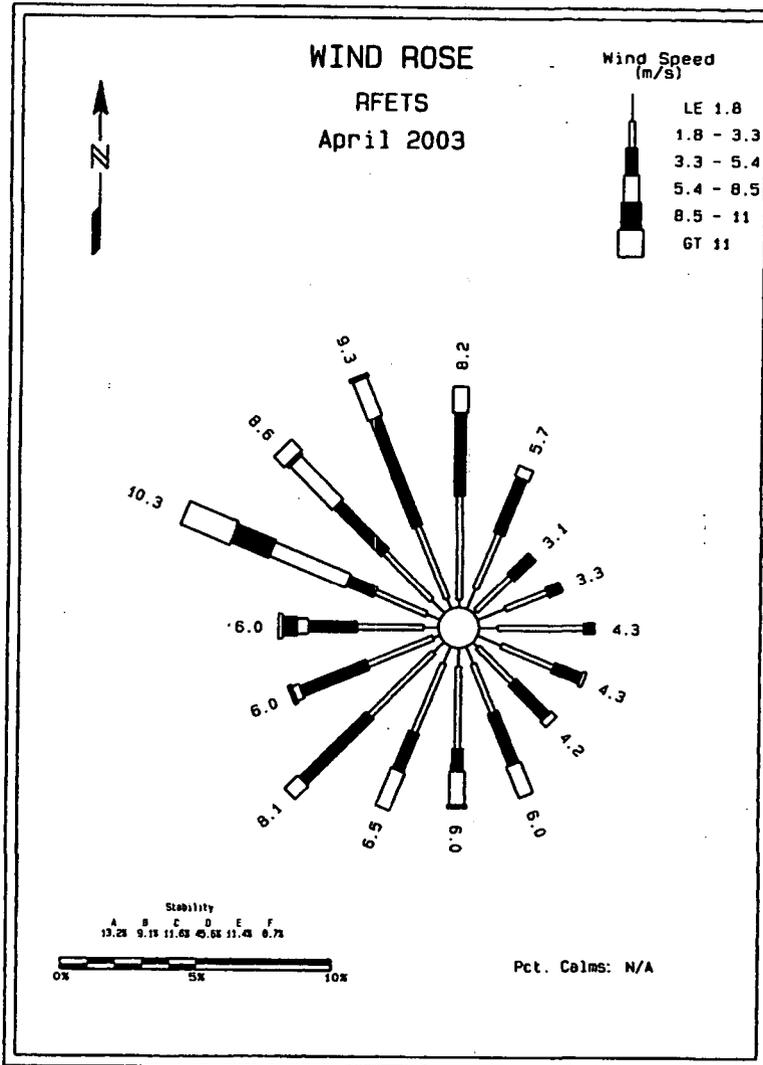
Figure 1-6. 903 Pad Performance Monitoring for Radionuclides.

For reference, a map illustrating the sampling locations used for PM-Rad of Industrial Area and 903 Pad demolition and remediation activities is included as Figure 1-7.

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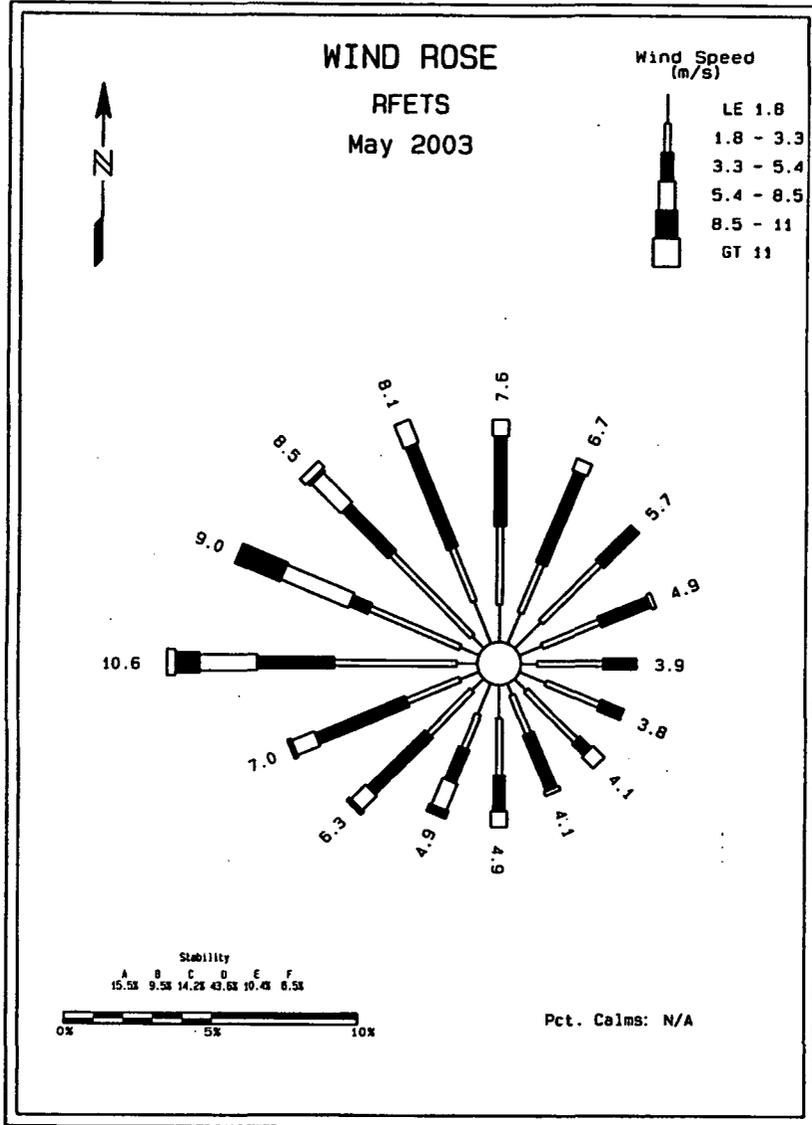
2.0 METEOROLOGY AND CLIMATOLOGY

2.1 WIND ROSES FOR APRIL, MAY, AND JUNE 2003



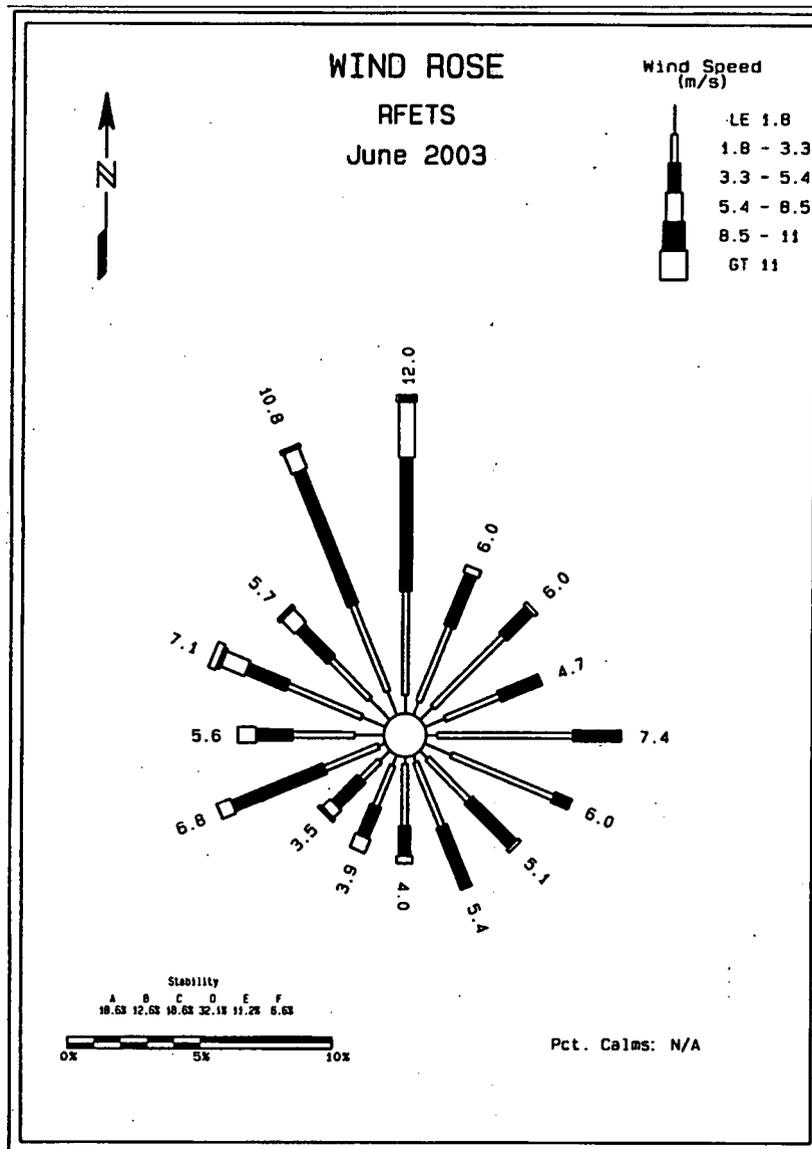
Monthly Climatic Summary											
Month	Temperature (°F)			Mean Dew Point (°F)	Mean Relative Humidity (%)	Wind Speed (mph)		Pressure Mean (mb)	Solar Total (kW-h/m ²)	Precipitation (in)	
	Mean Daily High	Mean Daily Low	Daily Mean			Mean	Max			Total	Max
Apr-03	57.44	38.13	47.88	35.05	67.69	8.97	67.78	808.92	166.27	3.59	0.14

Figure 2-1. Wind Rose for Rocky Flats Environmental Technology Site for April 2003



Monthly Climatic Summary											
Month	Temperature (°F)			Mean Dew Point (°F)	Mean Relative Humidity (%)	Wind Speed (mph)		Pressure Mean (mb)	Solar Total (kW-h/m ²)	Precipitation (In)	
	Mean Daily High	Mean Daily Low	Daily Mean			Mean	Max			Total	Max
May-03	64.77	46.05	55.57	43.23	68.20	8.10	52.01	811.20	134.58	1.63	0.14

Figure 2-2. Wind Rose for Rocky Flats Environmental Technology Site for May 2003



Monthly Climatic Summary											
Month	Temperature (°F)			Mean Dew Point (°F)	Mean Relative Humidity (%)	Wind Speed (mph)		Pressure Mean (mb)	Solar Total (kW-h/m ²)	Precipitation (in)	
	Mean Daily High	Mean Daily Low	Daily Mean			Mean	Max			Total	Max

Figure 2-3. Wind Rose for Rocky Flats Environmental Technology Site for June 2003

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3.0 SURFACE WATER DATA

Figure 3-1. Holding Ponds and Liquid Effluent Water Courses

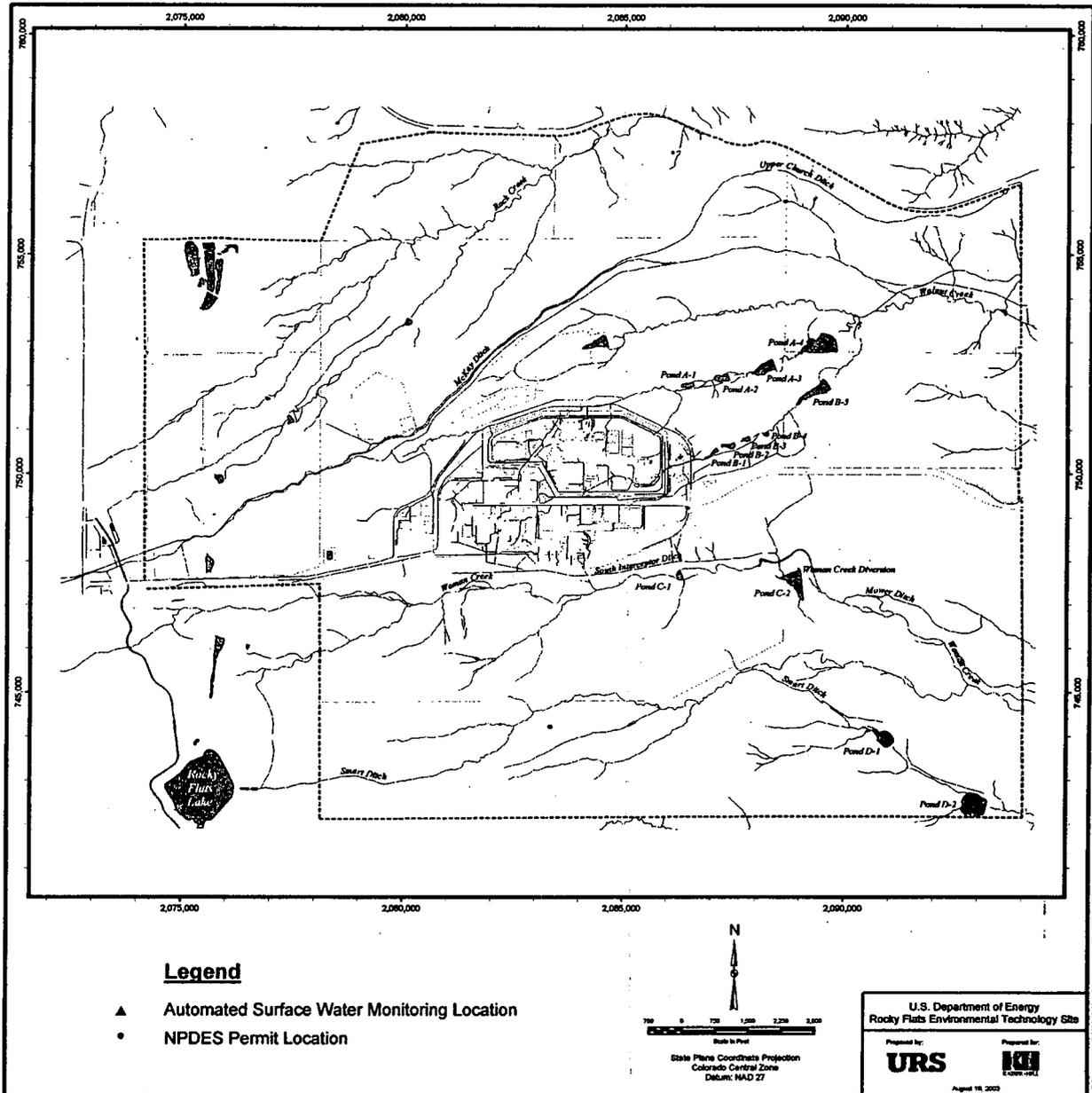


Table 3-1. Sewage Treatment Plant, Outfall STP1 (continued).

Parameter & Units	Measured 30-day Average	Limit 30-Day Average	Measured 7-Day Average	Limit 7-Day Average	Measured Daily Minimum	Limit Daily Minimum	Measured Daily Maximum	Limit Daily Maximum	Measured Result	% Removal (Calc)	% Removal Minimum
Gross alpha, pCi/l	< 1 - 1	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gross beta, pCi/l	6 - 9	19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ceriodaphnia Acute test	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	N/A	N/A
Fathead Minnows Acute test	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	N/A	N/A
Ceriodaphnia Chronic test	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	N/A	N/A
Fathead Minnows Chronic test	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PASS	N/A	N/A
Carbon Tetrachloride, ug/l	< 1	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2 Dichloro-ethane, ug/l	< 1	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene, ug/l	< 1	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1 Dichloro-ethylene, ug/l	< 1	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,1 Trichloro-ethane, ug/l	< 1	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2 Dichloro-ethylene (trans), ug/l	< 1	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichloro-Ethylene, ug/l	< 1	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloro-ethylene, ug/l	< 1	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A Not Applicable
 NS Not Sampled

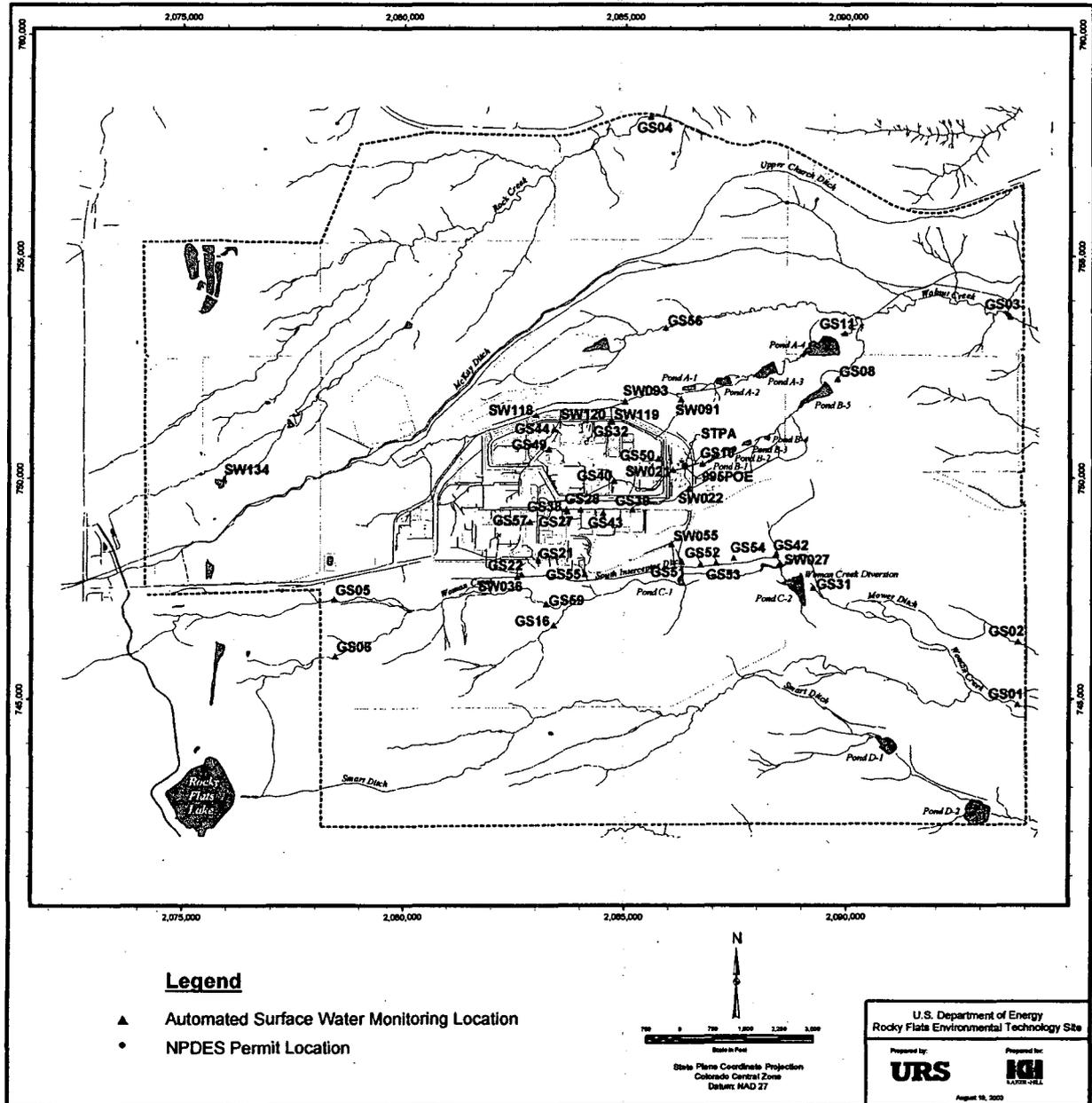
3.2 MOUND PLUME SUMMARY DATA

Table 3-2. Mound Plume Locations SW061 and SW132.

Analyte	SW061 6/12/03	SW132 6/12/03
Pu 239/240, pCi/l	0.003 +/-0.010	0.002 +/- 0.012
Am 241, pCi/l	-0.004 +/- 0.007	0.033 +/- 0.020
Silver, dissolved, ug/l	< 0.30	< 0.30
Aluminum, total, ug/l	54.6	94.8
Arsenic, total, ug/l	< 0.82	< 0.82
Barium, total, ug/l	333	267
Beryllium, total, ug/l	0.13	0.15
Cadmium, dissolved, ug/l	< 0.10	< 0.10
Copper, dissolved, ug/l	2.1	2.5
Iron, total, ug/l	105	205
Mercury, total, ug/l	< 0.10	< 0.10
Manganese, total, ug/l	60.7	59.3
Nickel, dissolved, ug/l	1.2	1.3
Lead, dissolved, ug/l	< 0.58	< 0.58
Antimony, total, ug/l	< 0.55	3.6
Selenium, dissolved, ug/l	< 1.0	2.1
Zinc, dissolved, ug/l	29.4	37.5
EPA VOA Method 8260, compounds found >RFCA Seg 5 Action Level	Not Detected	Not Detected

4.0 HYDROLOGIC AND ROCKY FLATS CLEAN-UP AGREEMENT (RFCA) DATA

Figure 4-1. Gaging Station Locations



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4.1 FLOW MONITORING

Table 4-1. Gaging Station GS01: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	3.793	0.737	0.038
2	1.712	0.660	0.550
3	1.079	0.592	0.700
4	1.084	0.464	0.718
5	0.882	0.409	0.819
6	1.641	0.380	0.131
7	1.955	0.380	0.129
8	5.835	0.386	0.108
9	4.720	0.501	0.670
10	1.558	4.180	0.783
11	1.028	2.973	0.779
12	0.822	1.173	0.720
13	0.673	0.713	0.682
14	0.549	0.497	0.123
15	0.500	1.156	0.051
16	0.477	1.819	0.475
17	0.390	1.459	0.459
18	0.354	1.324	0.185
19	12.842 ^a	1.307	0.055
20	6.857	1.271	0.022
21	1.731	1.220	0.022
22	1.398	1.369	0.007
23	1.157	0.350	0.005
24	12.412 ^a	0.284	0.005
25	4.414	0.299	0.006
26	1.823	0.255	0.004
27	1.138	0.787	0.003
28	0.904	0.872	0.001
29	0.828	0.777	0.000
30	0.789	0.678	0.000
31	NA	0.095	NA
Monthly Average (cfs)	2.511	0.947	0.275

Monthly Discharge

Cubic Feet	6509658	2537318	712951
Gallons	48695626	18980461	5333247
Acre-Feet	149.42	58.24	16.36

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS01 is located at 39° 52' 40"N, 105° 09' 55"W, at Woman Creek and Indiana Street (See Section 4 Map). This station is a RFCA Point of Compliance, a Buffer Zone Monitoring Location and a monitoring point for water leaving the Site and flowing to Woman Creek Reservoir. This station collects samples for selected radionuclides using continuous flow-paced sampling and storm event sampling for selected water quality parameters, metals, and major ions.

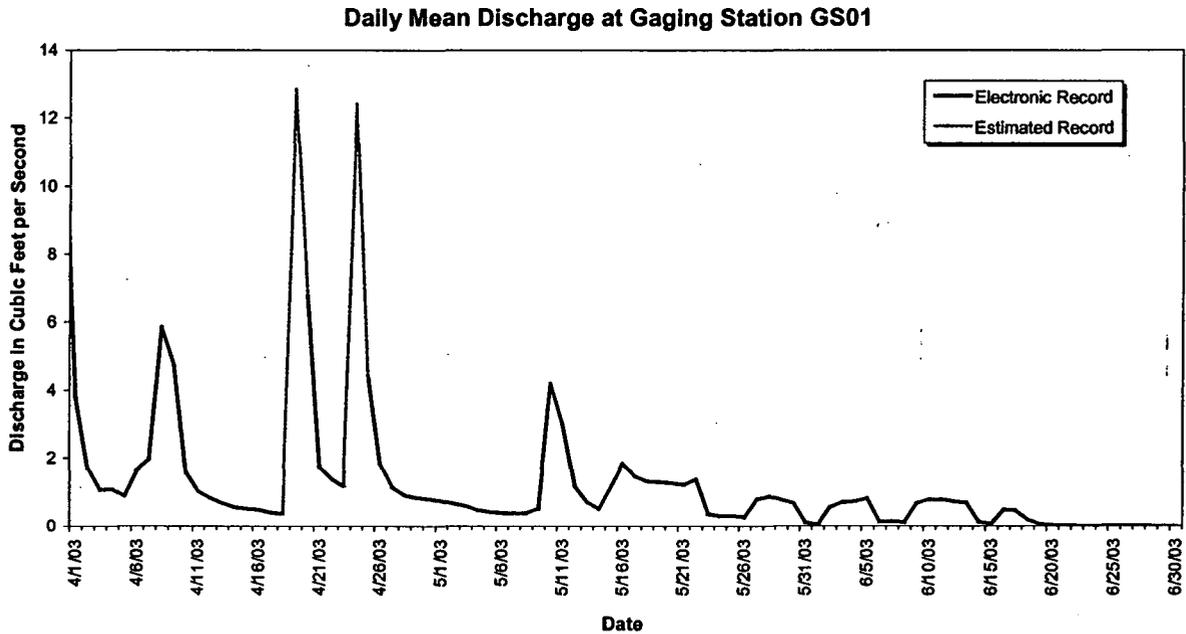


Figure 4-2. Mean Daily Discharge at GS01, Water Year 2003 (Apr, May, Jun 2003).

Table 4-2. Gaging Station GS02: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	BD	0.000	0.000
2	BD	0.000	0.000
3	0.000	0.000	0.000
4	0.000	0.000	0.000
5	0.000	0.000	0.000
6	0.000	0.000	0.000
7	0.000	0.000	0.000
8	0.000	0.000	0.000
9	0.010	0.000	0.000
10	0.000	0.060	0.000
11	0.000	0.011	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.000	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.062	0.000	0.000
20	0.017	0.000	0.000
21	0.000	0.000	0.000
22	0.000	0.000	0.000
23	0.000	0.000	0.000
24	0.164	0.000	0.000
25	0.015	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.010	0.002	0.000

Monthly Discharge

Cubic Feet	23182	6091	0
Gallons	173410	45564	0
Acre-Feet	0.53	0.14	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

BD = Bad data due to equipment failures.

Buffer Zone Hydrologic monitoring location GS02 is located at state plane 2093817, 746302 on Mower Ditch 200 feet west of Indiana Street. This station monitors runoff from an area north of Mower Ditch between Pond C-2 and Indiana Street. The GS02 drainage area is approximately 157.7 acres. This station collects samples for sediment/sand, Ca, Mg, Na, K, Cl, F, SO₄, HCO₃, and TSS using storm-event, rising-limb, flow-paced composite sampling.

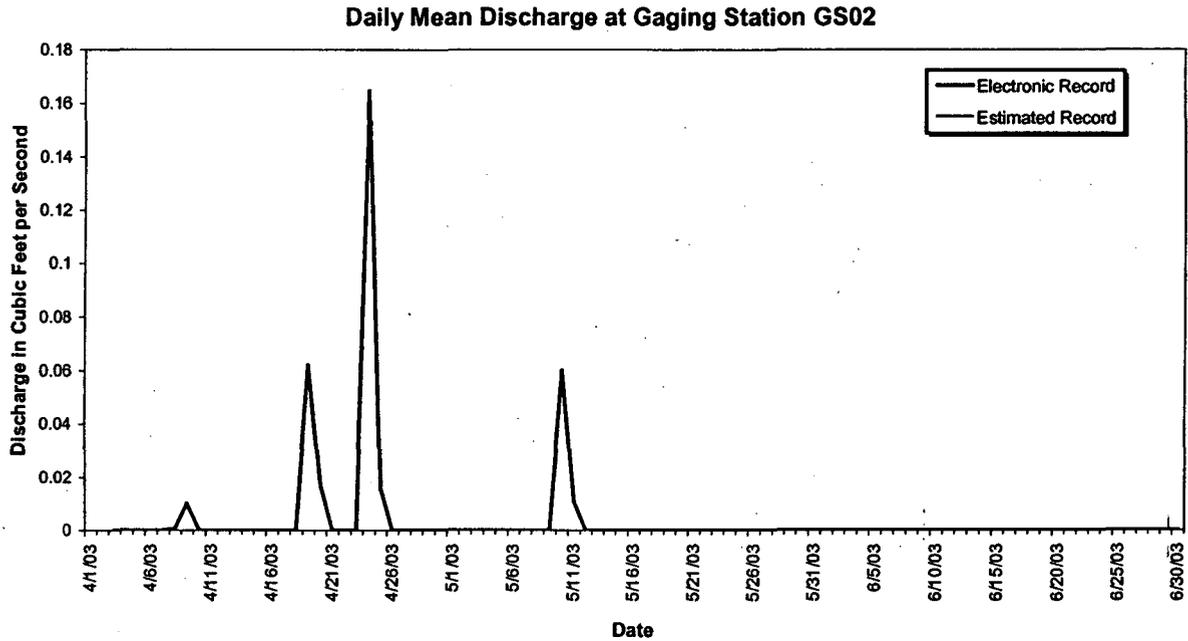


Figure 4-3. Mean Daily Discharge at GS02, Water Year 2003 (Apr, May, Jun 2003).

Table 4-3. Gaging Station GS03: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	6.019 ^a	0.106	0.018
2	4.851	0.080	0.019
3	4.679	0.053	0.018
4	4.626	0.032	0.020
5	4.129	0.024	0.018
6	4.337	0.023	0.018
7	5.461	0.023	0.018
8	8.654	1.163	0.014
9	8.630	2.276	0.013
10	3.186	4.838	0.012
11	0.323	4.807	0.266
12	0.173	2.876	0.062
13	0.095	2.482	0.077
14	0.049	2.336	0.086
15	0.036	4.581	0.085
16	0.032	6.701	0.084
17	0.026	6.407	0.089
18	0.020	5.620	0.117
19	7.411	5.137	0.108
20	3.308	4.171	0.114
21	0.756	3.826	0.109
22	0.522	1.660	0.109
23	0.414	0.069	0.115
24	6.341	0.043	0.122
25	2.124	0.037	0.126
26	0.794	0.030	0.121
27	0.380	0.024	0.127
28	0.218	0.021	0.125
29	0.173	0.017	0.128
30	0.145	0.016	0.128
31	NA	0.018	NA
Monthly Average (cfs)	2.597	1.919	0.082

Monthly Discharge

Cubic Feet	6731582	5140501	212941
Gallons	50355736	38453618	1592907
Acre-Feet	154.51	117.99	4.89

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS03 is located at 39° 54' 7"N, 105° 9' 59"W, at Walnut Creek and Indiana Street (See Section 4 Map). This station is a RFCA Point of Compliance, a Buffer Zone Monitoring Location and a monitoring point for water leaving the Site and flowing to the Broomfield Diversion Ditch. This station collects samples for selected radionuclides using continuous flow-paced sampling and storm event sampling for selected water quality parameters, metals, and major ions.

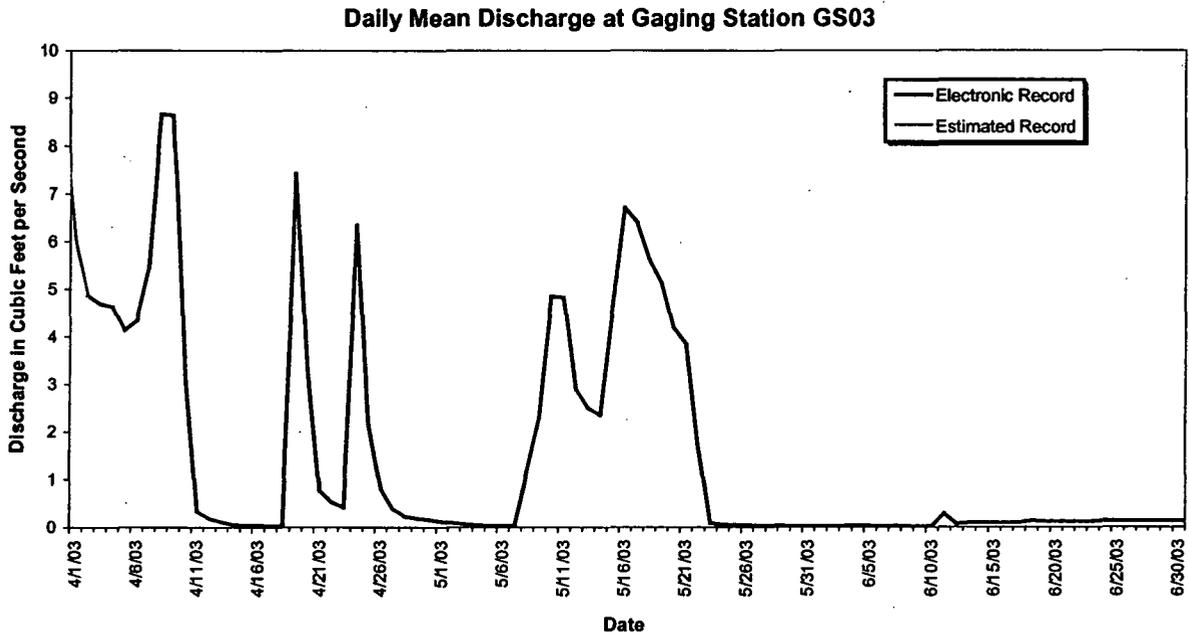


Figure 4-4. Mean Daily Discharge at GS03, Water Year 2003 (Apr, May, Jun 2003).

Table 4-4. Gaging Station GS04: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	3.775	0.953	0.203
2	2.202	0.846	0.158
3	1.482	0.736	0.130
4	1.252	0.626	0.172
5	1.016	0.546	0.257
6	1.651	0.517	0.209
7	1.659	0.529	0.464
8	3.368 ^a	0.554	0.245
9	3.146	0.717	0.156
10	1.498	3.428	0.128
11	1.127	3.300	0.105
12	0.948	1.715	0.098
13	0.800	1.245	0.094
14	0.690	0.921	0.103
15	0.728	0.963	0.106
16	0.674	1.291	0.084
17	0.551	0.791	0.072
18	0.511	0.625	0.102
19	8.577 ^a	0.634	0.137
20	4.651	0.639	0.112
21	2.034	0.547	0.115
22	1.848	0.449	0.085
23	1.519	0.392	0.064
24	6.727 ^a	0.397	0.052
25	3.604	0.435	0.043
26	1.978	0.394	0.053
27	1.394	0.320	0.056
28	1.173	0.259	0.041
29	1.100	0.209	0.028
30	1.059	0.161	0.015
31	NA	0.172	NA
Monthly Average (cfs)	2.091	0.816	0.123

Monthly Discharge

Cubic Feet	5420604	2186772	318435
Gallons	40548939	16358193	2382057
Acre-Feet	124.42	50.19	7.31

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Buffer Zone Hydrologic monitoring location GS04 is located at state plane 2085568, 758145 on Rock Creek 300 feet upstream of the box culvert under Hwy. 128. This station monitors runoff from the Rock Creek drainage in the northwest Buffer Zone. The GS04 drainage area is approximately 1500 acres. This station collects samples for sediment/sand, Ca, Mg, Na, K, Cl, F, SO₄, HCO₃, and TSS using storm-event, rising-limb, flow-paced composite sampling.

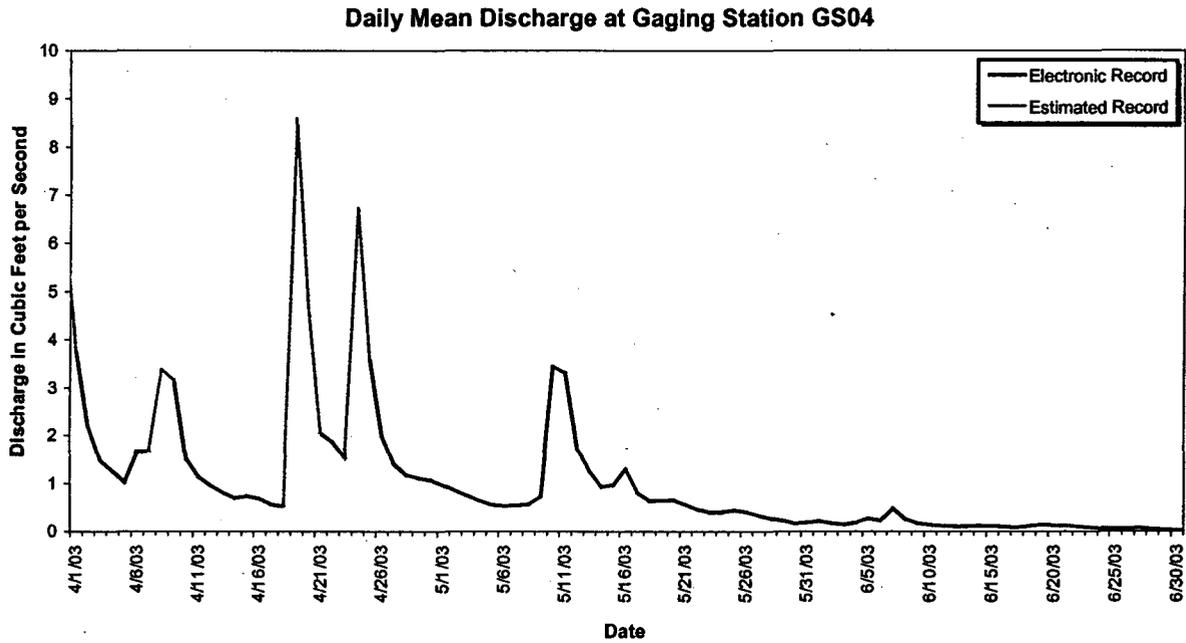


Figure 4-5. Mean Daily Discharge at GS04, Water Year 2003 (Apr, May, Jun 2003).

Table 4-5. Gaging Station GS05: Mean Daily Discharge (cubic feet per second).

Day	April-02	May-02	June-02
1	0.920	0.191	0.012
2	0.438	0.170	0.010
3	0.302	0.126	0.009
4	0.289	0.094	0.007
5	0.206	0.075	0.012
6	0.626	0.073	0.021
7	0.405	0.048	0.047
8	2.704	0.051	0.020
9	0.731	0.193	0.017
10	0.307	1.458	0.015
11	0.243	0.474	0.013
12	0.201	0.217	0.012
13	0.159	0.125	0.035
14	0.144	0.089	0.115
15	0.146	0.165	0.066
16	0.111	0.253	0.039
17	0.087	0.091	0.019
18	0.075	0.065	0.016
19	6.315 ^a	0.083	0.014
20	1.437	0.060	0.012
21	0.453	0.059	0.011
22	0.410	0.042	0.009
23	0.324	0.042	0.008
24	5.879 ^a	0.039	0.007
25	1.030	0.034	0.005
26	0.455	0.028	0.005
27	0.295	0.022	0.004
28	0.260	0.019	0.003
29	0.246	0.017	0.002
30	0.240	0.015	0.001
31	NA	0.013	NA
Monthly Average (cfs)	0.848	0.143	0.019

Monthly Discharge

Cubic Feet	2197975	383015	48872
Gallons	16441993	2865152	365590
Acre-Feet	50.45	8.79	1.12

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

BD = Bad data due to equipment failures.

WR = No data or unacceptable data due to winter icing conditions.

Buffer Zone Hydrologic monitoring location GS05 is located at state plane 2078428, 747260 on Woman Creek 320 feet east of the west Buffer Zone fence. This station monitors runoff from the Woman Creek drainage southwest of the Site including areas west of Hwy. 93. This station collects samples for sediment/sand, Ca, Mg, Na, K, Cl, F, SO₄, HCO₃, and TSS using storm-event, rising-limb, flow-paced composite sampling.

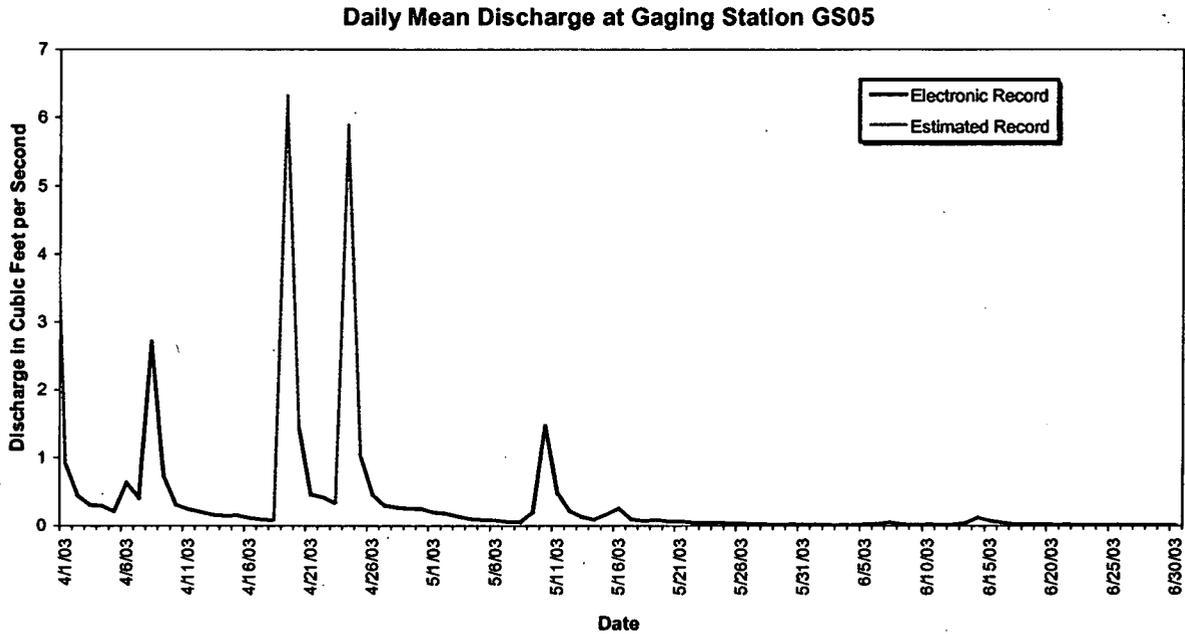


Figure 4-6. Mean Daily Discharge at GS05, Water Year 2003 (Apr, May, Jun 2003).

Table 4-6. Gaging Station GS06: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.1165	0.0711	0.0060
2	0.0731	0.0906	0.0097
3	0.0485	0.0948	0.1026
4	0.0424	0.1138	0.1373
5	0.0293	0.1190	0.0362
6	0.0732	0.1386	0.0179
7	0.0457	0.1509	0.1125
8	0.4448	0.1639	0.1739
9	0.1314	0.2163	0.1733
10	0.0603	0.3998	0.1756
11	0.0413	0.1975	0.1724
12	0.0324	0.0314	0.1715
13	0.0288	0.0219	0.1176
14	0.0256	0.0184	0.0248
15	0.0240	0.0572	0.0119
16	0.0199	0.0735	0.0092
17	0.0168	0.0527	0.0084
18	0.0135	0.0920	0.0080
19	0.8671 ^a	0.1392	0.0060
20	0.1918	0.1348	0.0069
21	0.0748	0.1315	0.0050
22	0.0541	0.1355	0.0048
23	0.0393	0.1625	0.0047
24	1.1189 ^a	0.1682	0.0059
25	0.1507	0.1424	0.0062
26	0.0689	0.0183	0.0031
27	0.0409	0.0116	0.0021
28	0.0322	0.0094	0.0018
29	0.0362	0.0073	0.0026
30	0.0614	0.0063	0.0017
31	NA	0.0076	NA
Monthly Average (cfs)	0.1335	0.1025	0.0507

Monthly Discharge

Cubic Feet	345951	274561	131303
Gallons	2587895	2053860	982211
Acre-Feet	7.94	6.30	3.01

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Buffer Zone Hydrologic monitoring location GS06 is located at state plane 2078449, 745968 on the Owl Branch to Woman Creek 330 feet east of the west Buffer Zone fence. This station monitors runoff from the area northeast of Rocky Flats Lake. This station collects samples for sediment/sand, Ca, Mg, Na, K, Cl, F, SO₄, HCO₃, and TSS using storm-event, rising-limb, flow-paced composite sampling.

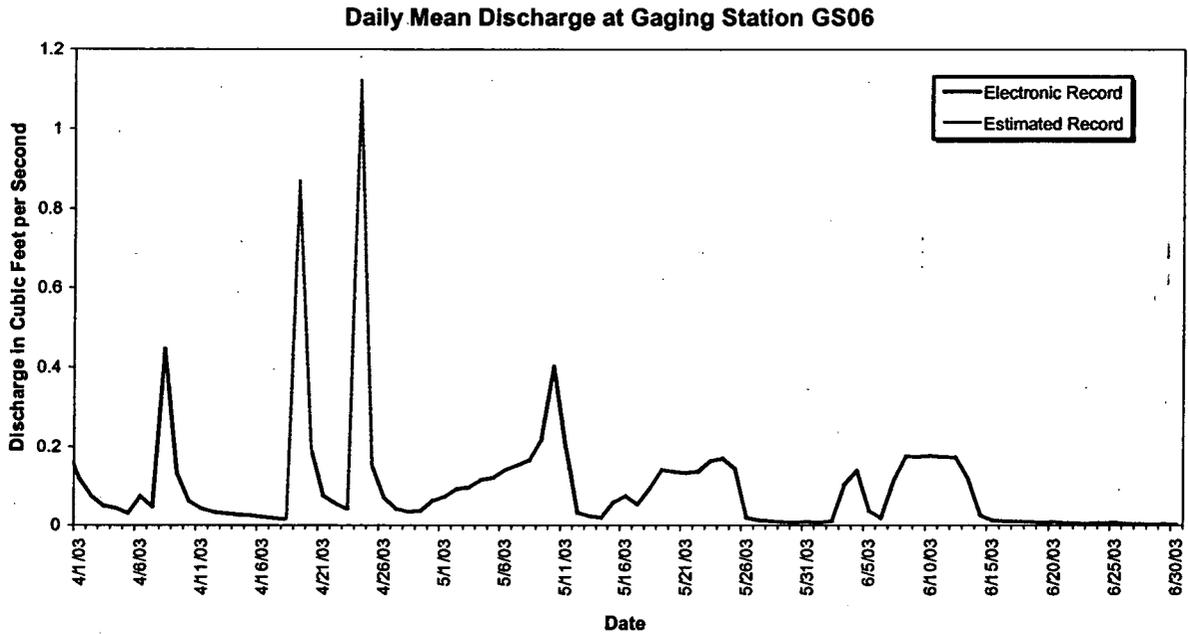


Figure 4-7. Mean Daily Discharge at GS06, Water Year 2003 (Apr, May, Jun 2003).

Table 4-7. Gaging Station GS08: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	1.581	0.000	0.000
2	1.588	0.000	0.000
3	1.699	0.000	0.000
4	1.616	0.000	0.000
5	1.495	0.000	0.000
6	1.481	0.000	0.000
7	1.756	0.000	0.000
8	2.108	1.553	0.000
9	2.542	2.361	0.000
10	0.938	2.289	0.000
11	0.000	2.264	0.000
12	0.000	2.207	0.000
13	0.000	2.282	0.000
14	0.000	2.289	0.000
15	0.000	2.101	0.000
16	0.000	2.005	0.000
17	0.000	1.980	0.000
18	0.000	1.995	0.000
19	0.000	2.024	0.000
20	0.000	1.538	0.000
21	0.000	1.408	0.000
22	0.000	0.569	0.000
23	0.000	0.000	0.000
24	0.000	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.560	0.931	0.000

Monthly Discharge

Cubic Feet	1451990	2493864	0
Gallons	10861639	18655403	0
Acre-Feet	33.33	57.24	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS08 is located 39° 53' 54"N, 105° 10' 48"W, at the Pond B-5 Outfall on South Walnut Creek (See Section 4 Map). This station is a RFCA Point of Compliance and monitors water discharged from Pond B-5 to South Walnut Creek. This station collects samples for selected radionuclides using continuous flow-paced sampling.

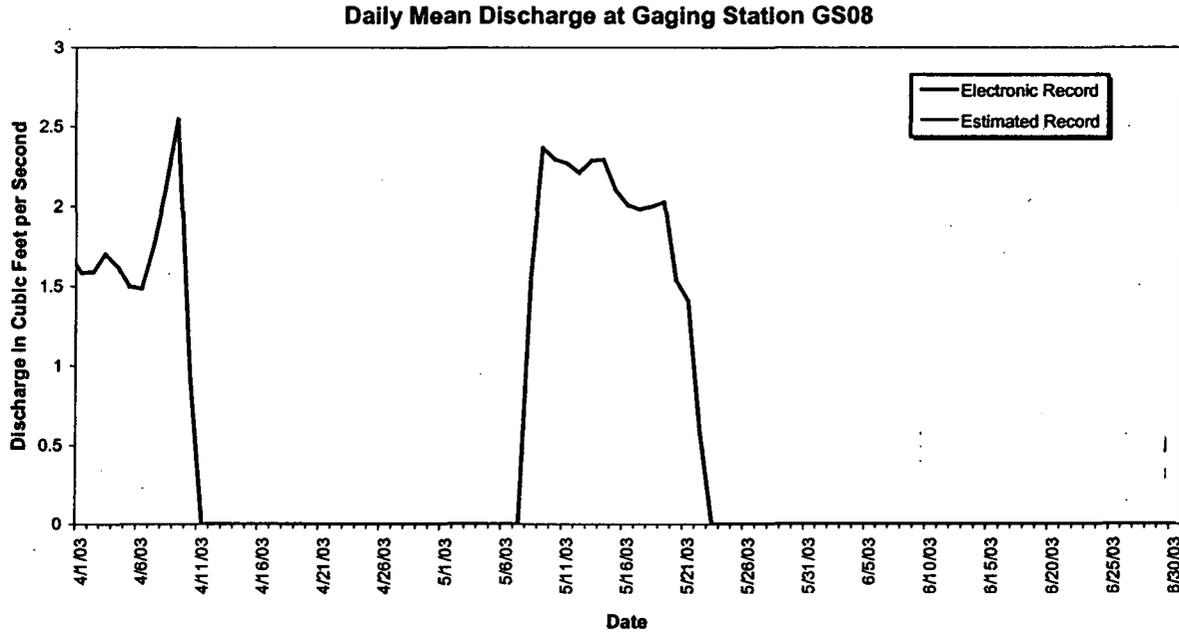


Figure 4-8. Mean Daily Discharge at GS08, Water Year 2003 (Apr, May, Jun 2003).

Table 4-8. Gaging Station GS10: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.298	0.054	0.067
2	0.198	0.048	0.061
3	0.249	0.048	0.060
4	0.189	0.047	0.072
5	0.085	0.055	0.062
6	1.149	0.052	0.304
7	0.522	0.047	0.324
8	1.178	0.057	0.058
9	0.319	0.771	0.056
10	0.184	2.649 ^a	0.056
11	0.114	0.168	0.056
12	0.077	0.091	0.064
13	0.066	0.071	0.059
14	0.094	0.068	0.133
15	0.122	0.659 ^a	0.068
16	0.071	0.157	0.068
17	0.052	0.078	0.194
18	0.049	0.076	0.211
19	4.216 ^a	0.077	0.082
20	0.254	0.071	0.514
21	0.184	0.071	0.212
22	0.123	0.072	0.091
23	0.093	0.076	0.095
24	2.207	0.080	0.102
25	0.159	0.078	0.094
26	0.101	0.072	0.073
27	0.084	0.068	0.065
28	0.086	0.067	0.059
29	0.061	0.073	0.052
30	0.061	0.071	0.042
31	NA	0.084	NA
Monthly Average (cfs)	0.422	0.199	0.115

Monthly Discharge

Cubic Feet	1092537	531881	298409
Gallons	8172744	3978749	2232253
Acre-Feet	25.08	12.21	6.85

Note: mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS10 is located 39° 53' 35"N, 105° 11' 27"W on South Walnut Creek above the Pond B-1 Bypass (See Section 4 Map). This station is a RFCA Action Level Framework and a New Source Detection Location and monitors water leaving the Site Industrial Area and entering the B-Series Ponds and South Walnut Creek. This station collects samples for selected radionuclides, metals, and water quality parameters using continuous flow-paced sampling.

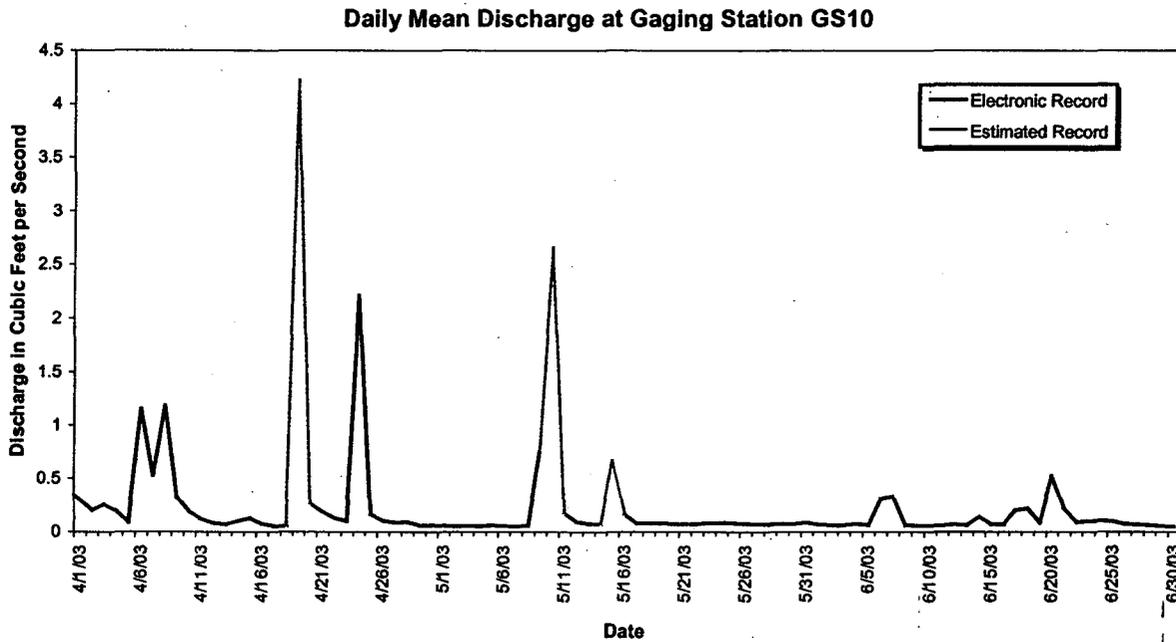


Figure 4-9. Mean Daily Discharge at GS10, Water Year 2003 (Apr, May, Jun 2003).

Table 4-9. Gaging Station GS11: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	2.896	0.000	0.000
2	2.639	0.000	0.000
3	2.754	0.000	0.000
4	2.739	0.000	0.000
5	2.386	0.000	0.000
6	2.146	0.000	0.000
7	2.966	0.000	0.000
8	3.764	0.000	0.000
9	4.146	0.000	0.000
10	1.230	0.000	0.000
11	0.000	0.000	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	2.805	0.000
16	0.000	4.504	0.000
17	0.000	4.490	0.000
18	0.000	3.647	0.000
19	0.000	3.108	0.000
20	0.000	2.473	0.000
21	0.000	2.272	0.000
22	0.000	0.669	0.000
23	0.000	0.000	0.000
24	0.000	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.922	0.773	0.000

Monthly Discharge

Cubic Feet	2390502	2070808	0
Gallons	17882200	15490722	0
Acre-Feet	54.87	47.53	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS11 is located 39° 54' 3"N, 105° 10' 47"W, at the Pond A-4 Outfall on North Walnut Creek (See Section 4 Map). This station is a RFCA Point of Compliance and monitors water discharged from Pond A-4 to North Walnut Creek. This station collects samples for selected radionuclides using continuous flow-paced sampling.

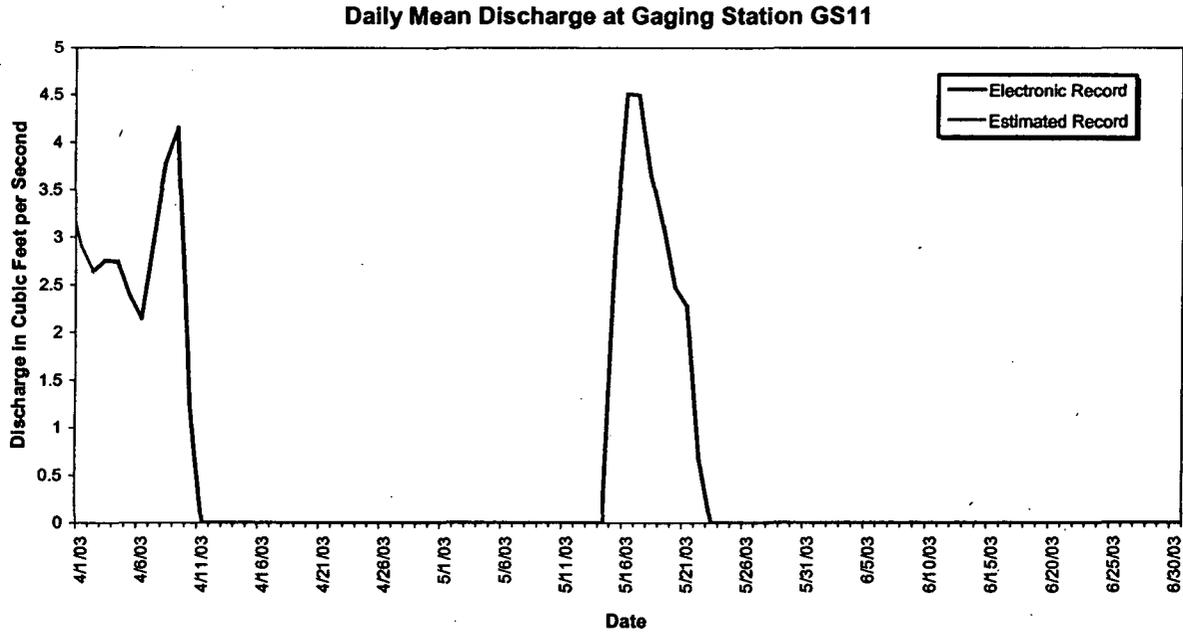


Figure 4-10. Mean Daily Discharge at GS11 Water Year 2003 (Apr, May, Jun 2003).

Table 4-10. Gaging Station GS16: Mean Daily Discharge (cubic feet per second).

Day	April 03	May 03	June 03
1	0.270	0.139	0.077
2	0.145	0.137	0.067
3	0.109	0.116	0.064
4	0.172	0.106	0.084
5	0.126	0.098	0.089
6	0.292	0.105	0.094
7	0.319	0.111	0.149
8	0.880	0.150	0.071
9	0.339	0.220	0.059
10	0.157	0.736	0.055
11	0.129	0.261	0.052
12	0.116	0.170	0.043
13	0.097	0.132	0.040
14	0.092	0.118	0.041
15	0.107	0.195	0.036
16	0.084	0.188	0.034
17	0.093	0.122	0.036
18	0.084	0.114	0.053
19	1.517	0.150	0.042
20	0.346	0.145	0.080
21	0.191	0.122	0.072
22	0.181	0.104	0.036
23	0.173	0.100	0.037
24	1.021	0.111	0.045
25	0.275	0.121	0.052
26	0.186	0.109	0.043
27	0.150	0.092	0.035
28	0.143	0.084	0.035
29	0.148	0.076	0.038
30	0.153	0.072	0.036
31	NA	0.082	NA
Monthly Average (cfs)	0.270	0.148	0.057

Monthly Discharge

Cubic Feet	699381	396252	146620
Gallons	5231730	2964170	1096793
Acre-Feet	16.05	9.10	3.37

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

WR = No data or unacceptable data due to winter icing conditions.

Buffer Zone Hydrologic monitoring location GS16 is located at state plane 2083406, 746659 on Antelope Springs Creek 970 feet upstream of Woman Creek. This station monitors discharge from Antelope Springs and runoff from the surrounding area. The GS16 drainage area is approximately 105 acres. This station collects flow data only.

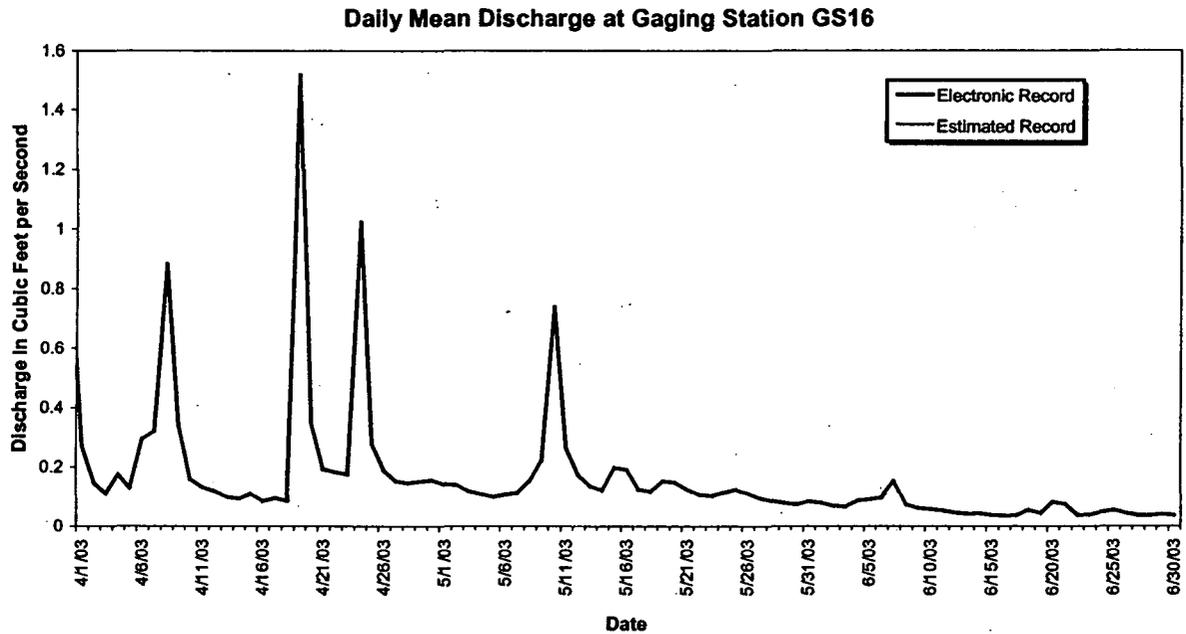


Figure 4-11. Mean Daily Discharge at GS16, Water Year 2003 (Apr, May, Jun 2003).

Table 4-11. Gaging Station GS21: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.003	0.002	0.000
2	0.001	0.001	0.000
3	0.002	0.001	0.000
4	0.004	0.001	0.000
5	0.002	0.001	0.000
6	0.026	0.001	0.008
7	0.011	0.001	0.002
8	0.022	0.001	0.000
9	0.004	0.016	0.000
10	0.001	0.050	0.000
11	0.000	0.005	0.000
12	0.000	0.001	0.000
13	0.000	0.001	0.000
14	0.000	0.000	0.000
15	0.002	0.011	0.000
16	0.001	0.002	0.000
17	0.001	0.000	0.002
18	0.000	0.000	0.002
19	0.074	0.002	0.001
20	0.003	0.002	0.009
21	0.003	0.001	0.001
22	0.001	0.000	0.000
23	0.002	0.000	0.000
24	0.037	0.001	0.000
25	0.002	0.001	0.000
26	0.001	0.000	0.000
27	0.001	0.000	0.000
28	0.001	0.000	0.000
29	0.001	0.000	0.000
30	0.002	0.000	0.000
31	NA	0.001	NA
Monthly Average (cfs)	0.0069	0.0034	0.0009

Monthly Discharge

Cubic Feet	17843	9021	2348
Gallons	133477	67480	17562
Acre-Feet	0.41	0.21	0.05

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS21 was installed on 12/10/02 as a Performance Monitoring location in support of D&D for the 400 and 600 Areas. GS21 is located at state plane 2083049, 748139 in a ditch SE of B664. The GS21 drainage area is approximately 3.2 acres. This station will collect samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

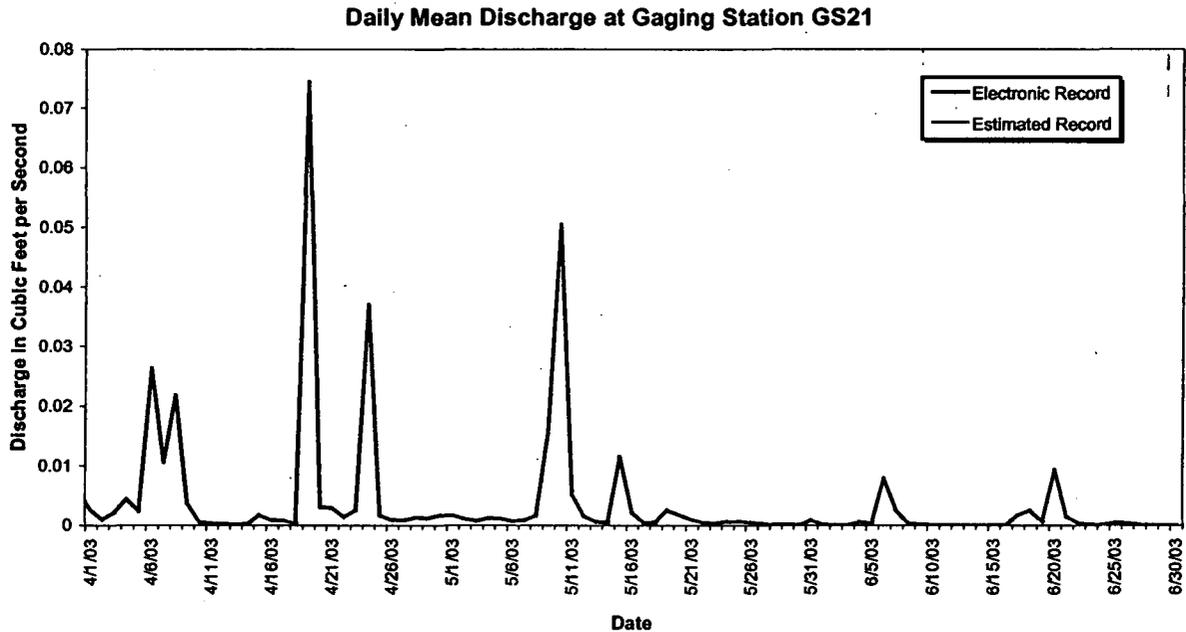


Figure 4-12. Mean Daily Discharge at GS21, Water Year 2003 (Apr, May, Jun 2003).

Table 4-12. Gaging Station GS22: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.056	0.026	0.014
2	0.040	0.035	0.014
3	0.077	0.022	0.014
4	0.067	0.021	0.031
5	0.034	0.020	0.016
6	0.258	0.020	0.216
7	0.148	0.018	0.037
8	0.276	0.029	0.013
9	0.042	0.231	0.016
10	0.033	0.538	0.014
11	0.030	0.055	0.015
12	0.028	0.025	0.017
13	0.029	0.024	0.016
14	0.026	0.022	0.016
15	0.059	0.152 ^a	0.014
16	0.025	0.030	0.013
17	0.033	0.021	0.040
18	0.027	0.023	0.043
19	0.922	0.031	0.012
20	0.034	0.019	0.152 ^a
21	0.055	0.019	0.016
22	0.031	0.017	0.011
23	0.039	0.016	0.011
24	0.447	0.016	0.015
25	0.033	0.016	0.022
26	0.030	0.015	0.010
27	0.028	0.015	0.011
28	0.034	0.014	0.010
29	0.030	0.026	0.009
30	0.031	0.030	0.008
31	NA	0.034	NA
Monthly Average (cfs)	0.100	0.051	0.028

Monthly Discharge

Cubic Feet	259284	136475	73054
Gallons	1939583	1020904	546483
Acre-Feet	5.95	3.13	1.68

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS22 was upgraded as a Performance monitoring location in support of D&D activities for the 400 Area. GS22 is located at state plane 2082678, 747820 on the outlet of a culvert draining a portion of the 400 Area immediately upstream from the SID south of B664. The GS22 drainage area is approximately 17.2 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

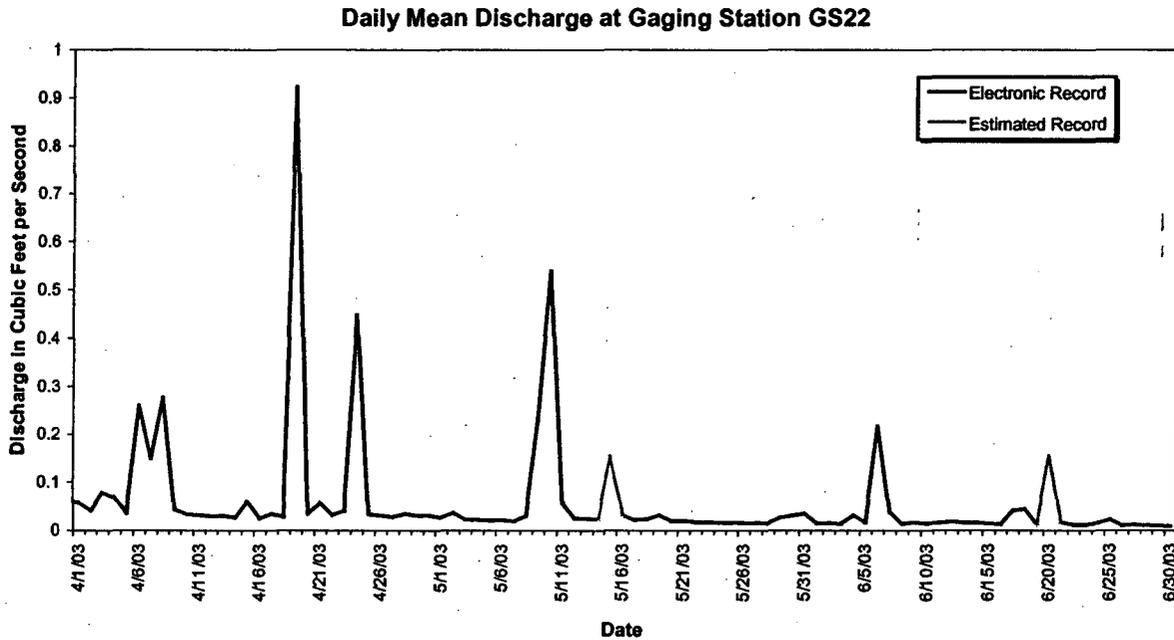


Figure 4-13. Mean Daily Discharge at GS22, Water Year 2003 (Apr, May, Jun 2003).

Table 4-13. Gaging Station GS27: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000
4	0.0000 ^a	0.0000	0.0000
5	0.0000 ^a	0.0000	0.0000
6	0.0006 ^a	0.0000	0.0000
7	0.0004 ^a	0.0000	0.0000
8	0.0012 ^a	0.0000	0.0000
9	0.0000 ^a	0.0001	0.0000
10	0.0000	0.0017	0.0000
11	0.0000	0.0000	0.0000
12	0.0000	0.0000	0.0000
13	0.0000	0.0000	0.0000
14	0.0000	0.0000	0.0000
15	0.0000	0.0001	0.0000
16	0.0000	0.0000	0.0000
17	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000
19	0.0025	0.0000	0.0000
20	0.0000	0.0000	0.0001
21	0.0000	0.0000	0.0000 ^a
22	0.0000	0.0000	0.0000
23	0.0000	0.0000	0.0000
24	0.0017	0.0000	0.0000
25	0.0000	0.0000	0.0000
26	0.0000	0.0000	0.0000
27	0.0000	0.0000	0.0000
28	0.0000	0.0000	0.0000
29	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000
31	NA	0.0000	NA
Monthly Average (cfs)	0.0002	0.0001	0.0000

Monthly Discharge

Cubic Feet	558	158	5
Gallons	4172	1179	34
Acre-Feet	0.01	0.00	0.00

Note: mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS27 is located at State Plane 2080529; 751216, at the small drainage ditch NW of Building 884 (see Section 4 Map). This location is a Performance and Best Management Practices Monitoring Location and monitors water draining from the Building 889 area. This station collects samples for selected radionuclides using continuous, flow-paced sampling.

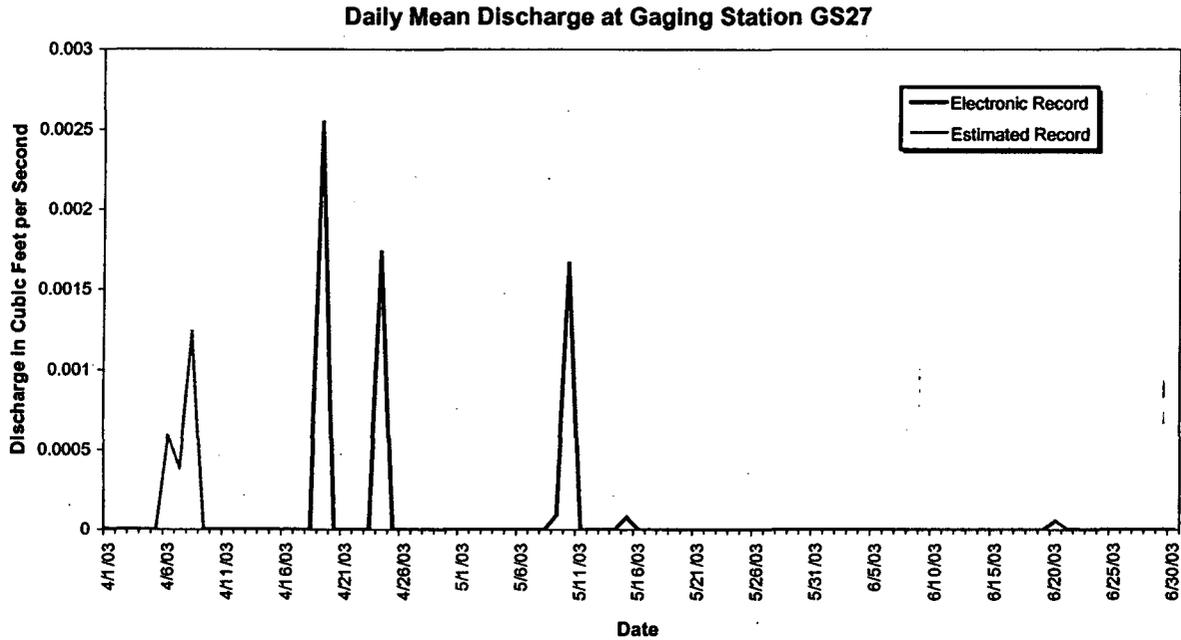


Figure 4-14. Mean Daily Discharge at GS27 Water Year 2003 (Apr, May, Jun 2003).

Table 4-14. Gaging Station GS28: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000
7	0.0000	0.0000	0.0000
8	0.0172	0.0000	0.0000
9	0.0000	0.0000	0.0000
10	0.0000	0.0355	0.0000
11	0.0000	0.0005	0.0000
12	0.0000	0.0000	0.0000
13	0.0000	0.0000	0.0000
14	0.0000	0.0000	0.0000
15	0.0000	0.0048	0.0000
16	0.0000	0.0001	0.0000
17	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000
19	0.0558	0.0000	0.0000
20	0.0000	0.0000	0.0009
21	0.0000	0.0000	0.0002
22	0.0000	0.0000	0.0000
23	0.0000	0.0000	0.0000
24	0.0229	0.0000	0.0000
25	0.0000	0.0000	0.0000
26	0.0000	0.0000	0.0000
27	0.0000	0.0000	0.0000
28	0.0000	0.0000	0.0000
29	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000
31	NA	0.0000	NA
Monthly Average (cfs)	0.0032	0.0013	0.0000

Monthly Discharge

Cubic Feet	8279	3539	97
Gallons	61932	26476	723
Acre-Feet	0.19	0.08	0.00

Note: mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS28 was re-installed as a Performance monitoring location in support of D&D activities for the 800 Area. GS28 is located at state plane 2084008, 749279 on a ditch NW of B865. The GS28 drainage area is approximately 3 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

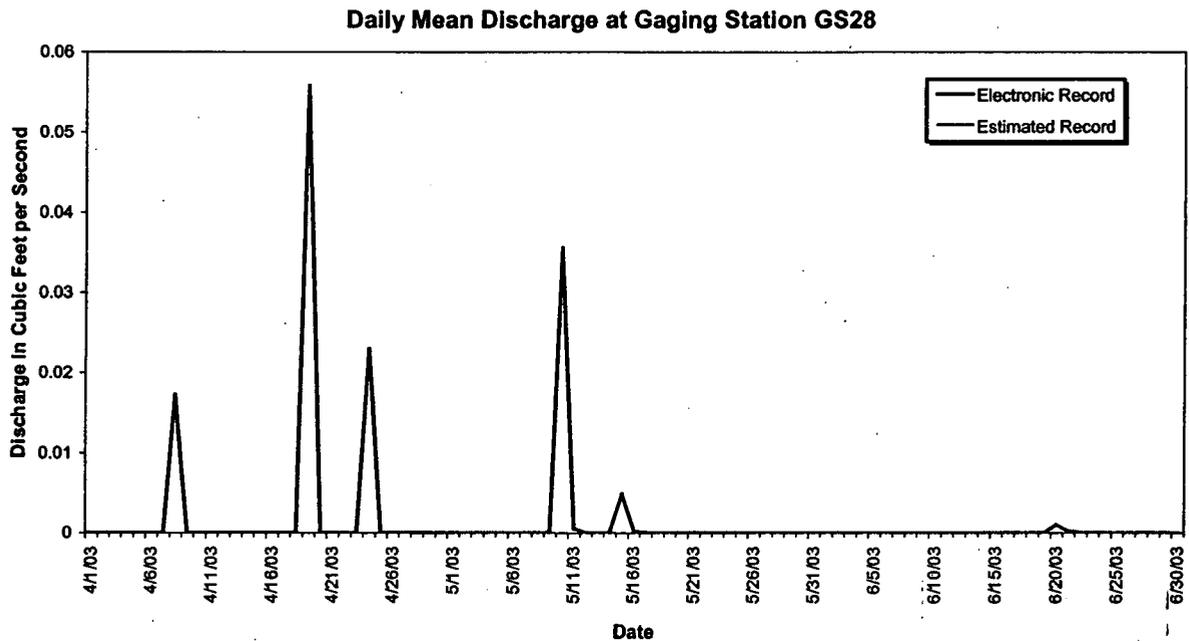


Figure 4-15. Mean Daily Discharge at GS28 Water Year 2003 (Apr, May, Jun 2003).

Table 4-15. Gaging Station GS31: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.000	0.000	0.000
2	0.000	0.000	0.862
3	0.000	0.000	0.874
4	0.000	0.000	0.853
5	0.000	0.000	0.966
6	0.000	0.000	0.000
7	0.000	0.000	0.000
8	0.000	0.000	0.000
9	0.000	0.000	0.825
10	0.000	0.000	0.854
11	0.000	0.000	0.885
12	0.000	0.000	0.823
13	0.000	0.000	0.757
14	0.000	0.000	0.000
15	0.000	0.988	0.000
16	0.000	1.128	0.788
17	0.000	1.052	0.602
18	0.000	1.092	0.104
19	0.000	1.110	0.000
20	0.000	0.984	0.000
21	0.000	1.082	0.000
22	0.000	1.355	0.000
23	0.000	0.000	0.000
24	0.000	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.985	0.000
28	0.000	0.976	0.000
29	0.000	0.926	0.000
30	0.000	0.839	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.000	0.404	0.306

Monthly Discharge

Cubic Feet	0	1081183	794331
Gallons	0	8087810	5942010
Acre-Feet	0.00	24.82	18.23

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

* Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS31 is located at State Plane 2089268: 747506, at the Pond C-2 Outfall (See Section 4 Map). This station is a RFCA Point of Compliance and monitors water discharged from Pond C-2. This station collects samples for selected radionuclides using continuous flow-paced sampling.

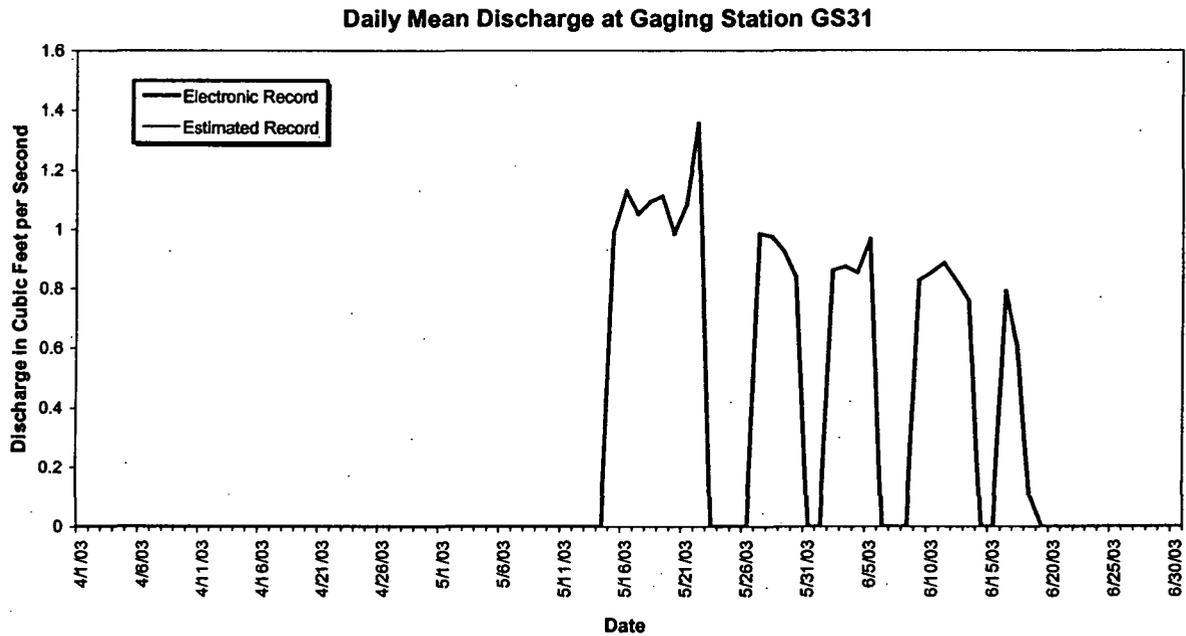


Figure 4-16. Mean Daily Discharge at GS31 Water Year 2003 (Apr, May, Jun 2003).

Table 4-16. Gaging Station GS38: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.011	0.000	0.000
2	0.003	0.000	0.000
3	0.043	0.000	0.000
4	0.015	0.000	0.000
5	0.003	0.000	0.000
6	0.333	0.000	0.101
7	0.126	0.000	0.044
8	0.308	0.000	0.000
9	0.014	0.244	0.000
10	0.003	0.727	0.000
11	0.002	0.021	0.000
12	0.001	0.005	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.005
15	0.003	0.168 ^a	0.000
16	0.003	0.014	0.000
17	0.000	0.000	0.021
18	0.000	0.000	0.012
19	1.181 ^a	0.000	0.000
20	0.027	0.000	0.143
21	0.022	0.000	0.013
22	0.010	0.000	0.000
23	0.007	0.000	0.000
24	0.607	0.000	0.000
25	0.017	0.000	0.000
26	0.006	0.000	0.000
27	0.001	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.092	0.038	0.011

Monthly Discharge

Cubic Feet	237433	101857	29394
Gallons	1776123	761946	219885
Acre-Feet	5.45	2.34	0.67

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS38 was upgraded on 5/16/03 as a Performance monitoring location in support of closure activities in the 100, 300, 400, and 600 Areas. GS38 is located at state plane 2083684, 749289 on the Central Ave. Ditch just east of 8th Street. The GS38 drainage area is approximately 40.7 acres. This station now collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

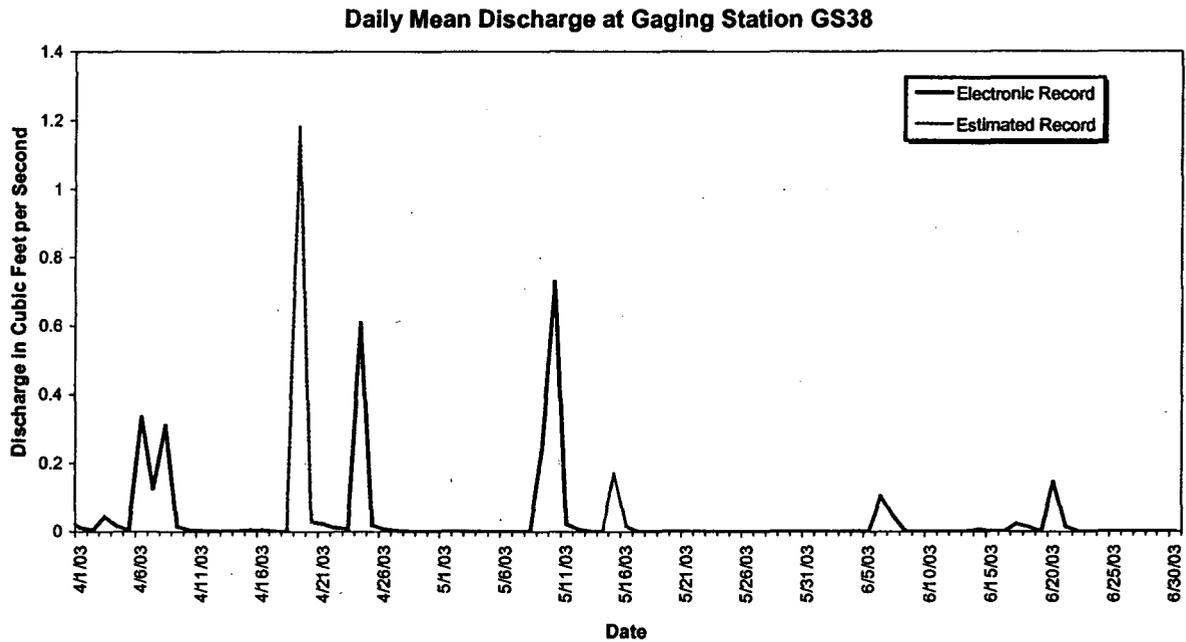


Figure 4-17. Mean Daily Discharge at GS38 Water Year 2003 (Apr, May, Jun 2003).

Table 4-17. Gaging Station GS39: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.002	0.000	0.000
2	0.001	0.000	0.000
3	0.005	0.000	0.000
4	0.001	0.000	0.000
5	0.000	0.000	0.000
6	0.055	0.000	0.000
7	0.012	0.000	0.001
8	0.033	0.000	0.000
9	0.000	0.030	0.000
10	0.000	0.114	0.000
11	0.000	0.000	0.000
12	0.000	0.002	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.022	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.154	0.000	0.000
20	0.000	0.000	0.011
21	0.000	0.000	0.001
22	0.000	0.000	0.000
23	0.000	0.000	0.000
24	0.081	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.0114	0.0054	0.0005

Monthly Discharge

Cubic Feet	29663	14481	1190
Gallons	221891	108325	8899
Acre-Feet	0.68	0.33	0.03

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS39 is located in the drainage ditch northwest of the 904 Pad. This location is a RFCA Source Location station monitoring water flowing from the area of the 903 Pad as well as part of the 904 Pad and contractor yard to South Walnut Creek. This station collects samples for selected radionuclides using continuous, flow-paced sampling.

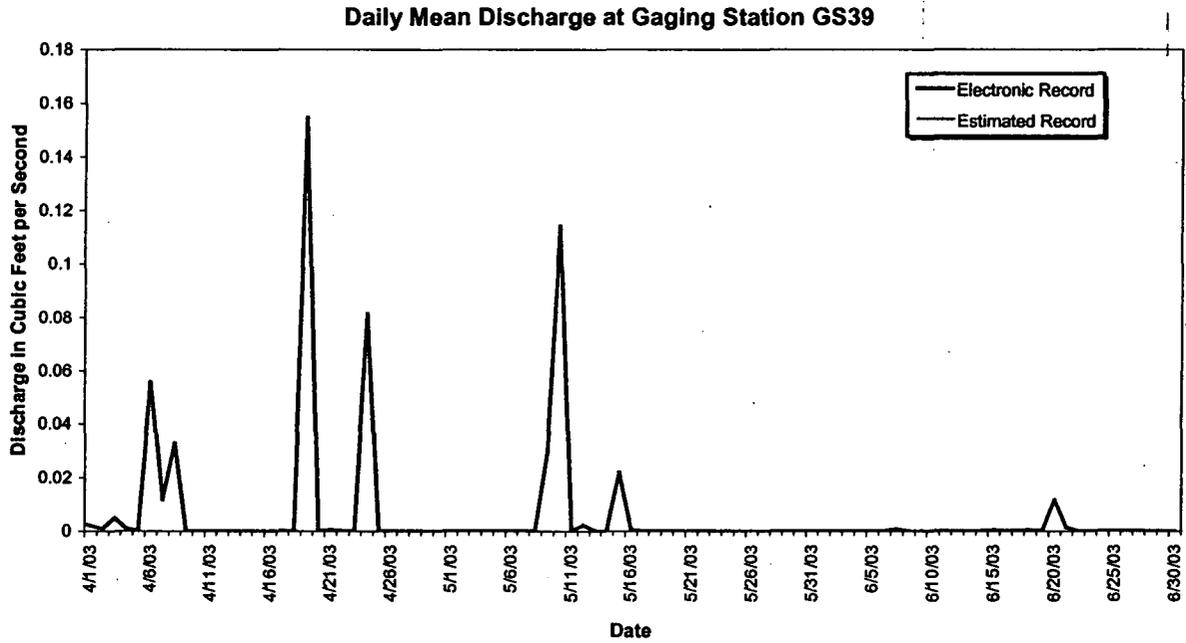


Figure 4-18. Mean Daily Discharge at GS39 Water Year 2003 (Apr, May, Jun 2003).

Table 4-18. Gaging Station GS40: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.078	0.039	0.043
2	0.066	0.039	0.056
3	0.095	0.037	0.065
4	0.087	0.036	0.081
5	0.060	0.050	0.054
6	0.316	0.044	0.202
7	0.172	0.036	0.048
8	0.341	0.040	0.022
9	0.090	0.277	0.027
10	0.070	0.657	0.027
11	0.066	0.096	0.025
12	0.052	0.049	0.039
13	0.045	0.040	0.020
14	0.042	0.037	0.088
15	0.070	0.233	0.023
16	0.038	0.043	0.026
17	0.037	0.034	0.110
18	0.035	0.038	0.049
19	1.054	0.044	0.022
20	0.070	0.040	0.161
21	0.076	0.042	0.034
22	0.059	0.043	0.024
23	0.060	0.045	0.026
24	0.563	0.048	0.027
25	0.061	0.050	0.030
26	0.049	0.054	0.021
27	0.045	0.056	0.021
28	0.047	0.057	0.023
29	0.041	0.060	0.023
30	0.045	0.052	0.021
31	NA	0.066	NA
Monthly Average (cfs)	0.131	0.080	0.048

Monthly Discharge

Cubic Feet	339511	214647	124276
Gallons	2539720	1605670	929650
Acre-Feet	7.79	4.93	2.85

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station GS40 is located on the concrete spillway east of Tenth Street, south of Building 997. This location is a RFCA Performance Monitoring Location monitoring water flowing from the 700 area to South Walnut Creek. This station samples for selected radionuclides using continuous, flow-paced sampling.

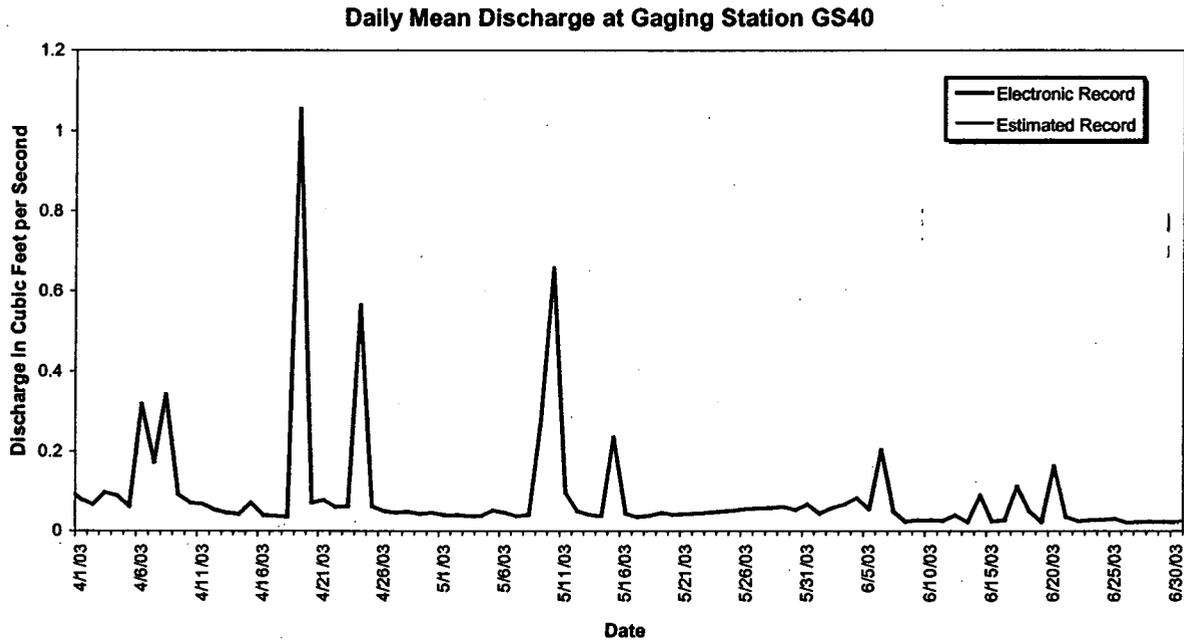


Figure 4-19. Mean Daily discharge at GS40 Water Year 2003 (Apr, May, Jun 2003).

Table 4-19. Gaging Station GS42: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.005	0.000	0.000
2	0.002	0.000	0.000
3	0.000	0.000	0.000
4	0.000	0.000	0.000
5	0.000	0.000	0.000
6	0.005	0.000	0.000
7	0.000	0.000	0.000
8	0.008	0.000	0.000
9	0.000	0.000	0.000
10	0.000	0.015	0.000
11	0.000	0.000	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.000	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.032	0.000	0.000
20	0.000	0.000	0.000
21	0.000	0.000	0.000
22	0.000	0.000	0.000
23	0.000	0.000	0.000
24	0.024	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.003	0.000	0.000

Monthly Discharge

Cubic Feet	6755	1260	0
Gallons	50528	9424	0
Acre-Feet	0.16	0.03	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS42 was upgraded as a Performance monitoring location in support of characterization activities for the 903 Pad and Lip Area. GS42 is located at state plane 2088476, 748236 on a drainage swale immediately upstream from the SID north of Pond C-2. The GS42 drainage area is approximately 45.2 acres. This station collects samples for Pu, Am, uranium isotopes, and TSS using continuous flow-paced composite sampling.

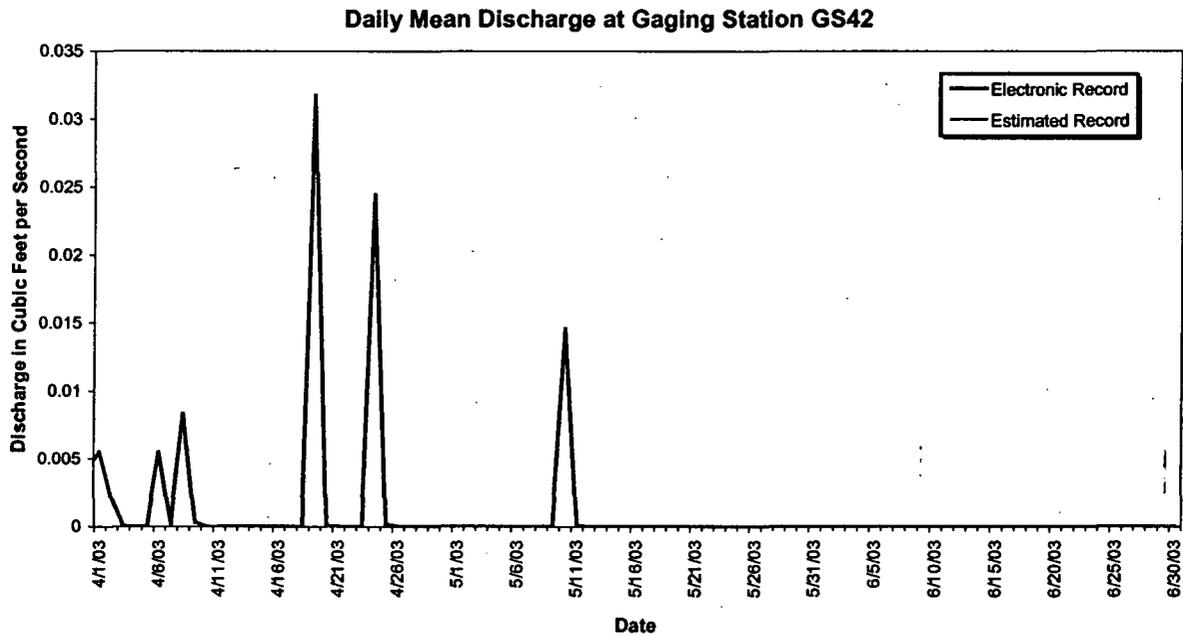


Figure 4-20. Mean Daily Discharge at GS42, Water Year 2003 (Apr, May, Jun 2003).

Table 4-20. Gaging Station GS43: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.001	0.000	0.000
2	0.000	0.000	0.000
3	0.003	0.000	0.000
4	0.001 ^a	0.000	0.000
5	0.000	0.000	0.000
6	0.014	0.000	0.005
7	0.005	0.000	0.001
8	0.021	0.000	0.000
9	0.002	0.011	0.000
10	0.000	0.035	0.000
11	0.000	0.002	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.008	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.002
18	0.000	0.000	0.001
19	0.064	0.000	0.000
20	0.000	0.000	0.009
21	0.000	0.000	0.000
22	0.000	0.000	0.000
23	0.009	0.000	0.000
24	0.061	0.000	0.000
25	0.006	0.000	0.000
26	0.006	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.003	0.000	0.000
30	0.005	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.007	0.002	0.001

Monthly Discharge

Cubic Feet	17238	4847	1543
Gallons	128950	36259	11545
Acre-Feet	0.40	0.11	0.04

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS43 is located in the ditch at the northeast corner of T886A. This location is a RFCA Performance Monitoring Location monitoring runoff from the eastern portion of the 800 area including Building 875, T886A, and the eastern half of Building 886. Water passing this monitoring location continues to South Walnut Creek. This station samples for selected radionuclides and metals using continuous, flow-paced sampling.

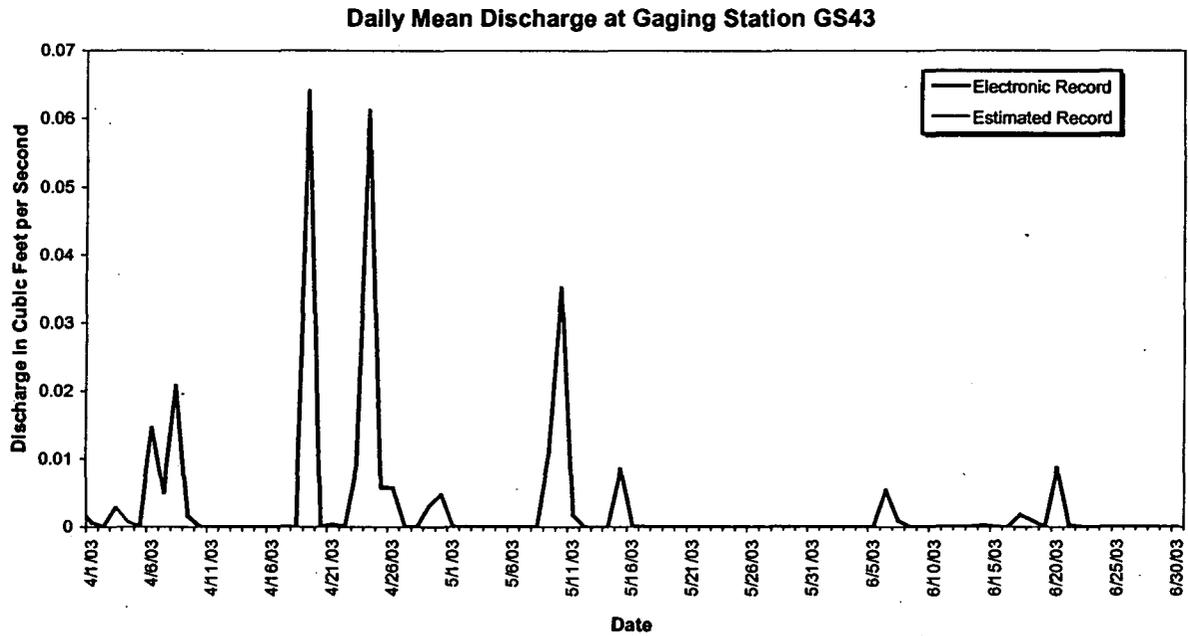


Figure 4-21. Mean Daily Discharge at GS43, Water Year 2003 (Apr, May, Jun 2003).

Table 4-21. Gaging Station GS44 Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.005	0.003	0.000
2	0.004	0.003	0.001
3	0.008	0.004	0.001
4	0.006	0.003	0.001
5	0.003	0.002	0.000
6	0.039	0.002	0.011
7	0.021	0.002	0.003
8	0.052	0.002	0.000
9	0.010	0.034	0.000
10	0.005	0.092	0.000
11	0.005	0.013	0.000
12	0.003	0.006	0.000
13	0.003	0.003	0.000
14	0.003	0.003	0.003
15	0.004	0.025	0.000
16	0.002	0.004	0.001 ^a
17	0.002	0.003	0.007 ^a
18	0.002	0.002	0.004
19	0.155	0.002	0.000
20	0.010	0.002	0.009
21	0.009	0.002	0.001
22	0.006	0.002	0.001
23	0.005	0.002	0.001
24	0.082	0.002	0.001
25	0.007	0.002	0.001
26	0.006	0.001	0.001
27	0.005	0.001	0.001
28	0.004	0.001	0.000
29	0.004	0.001	0.001
30	0.003	0.001	0.000
31	NA	0.001	NA
Monthly Average (cfs)	0.0158	0.0073	0.0016

Monthly Discharge

Cubic Feet	40941	19626	4258
Gallons	306259	146813	31853
Acre-Feet	0.94	0.45	0.10

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS44 is located at state plane 2083411, 751100 on a drainage ditch between T771F and T771L. This station is a Performance Monitoring Location and monitors runoff from the west side of B771 and includes B771 footing drain water. This station collects samples for selected radionuclides and water quality parameters using continuous flow-paced composite sampling.

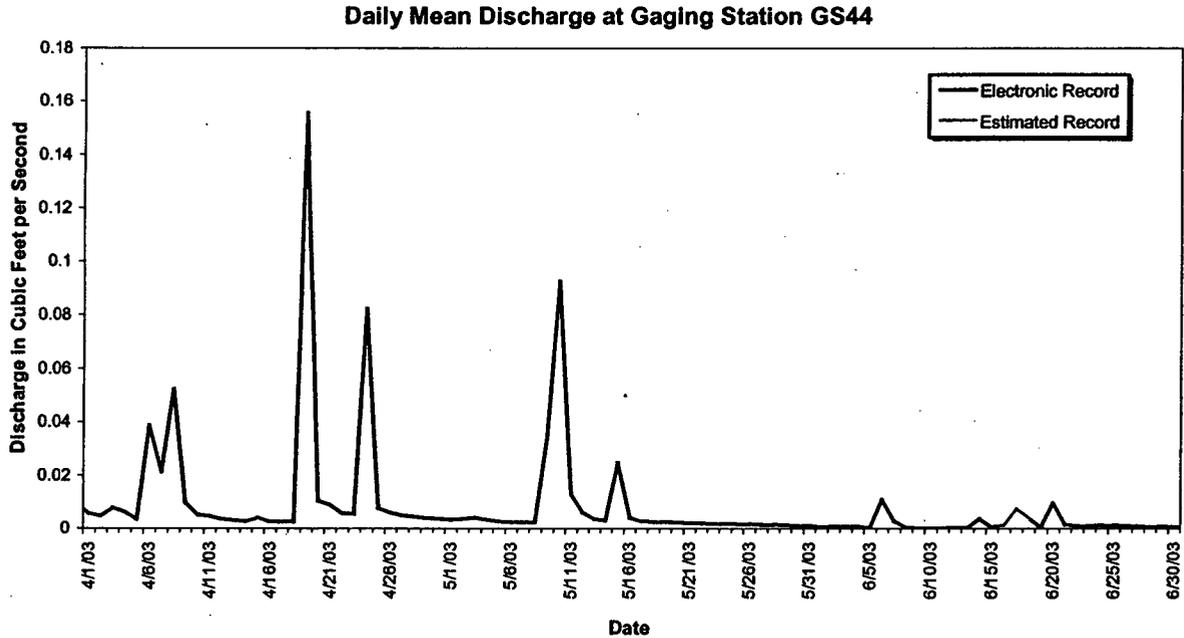


Figure 4-22. Mean Daily Discharge at GS44 Water Year 2003 (Apr, May, Jun 2003).

Table 4-22. Gaging Station GS49 Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.0038	0.0003	0.0000
2	0.0022	0.0003	0.0000
3	0.0026	0.0000	0.0000
4	0.0072	0.0000	0.0006
5	0.0024 ^a	0.0000	0.0001
6	0.0184	0.0000	0.0069
7	0.0103	0.0000	0.0006
8	0.0216	0.0003	0.0000
9	0.0056	0.0093	0.0000
10	0.0030	0.0293	0.0000
11	0.0026	0.0064	0.0000
12	0.0023	0.0005	0.0003
13	0.0011	0.0002	0.0000
14	0.0000	0.0001	0.0021
15	0.0021	0.0078	0.0000
16	0.0000	0.0004	0.0000
17	0.0000	0.0000	0.0033
18	0.0000	0.0001	0.0006
19	0.0497	0.0006	0.0000
20	0.0037	0.0000	0.0043
21	0.0044	0.0000	0.0000
22	0.0030	0.0000	0.0000
23	0.0030	0.0000	0.0000
24	0.0292	0.0000	0.0000
25	0.0035	0.0000	0.0004
26	0.0025	0.0000	0.0000
27	0.0019	0.0000	0.0000
28	0.0020	0.0000	0.0000
29	0.0012	0.0002	0.0000
30	0.0008	0.0000	0.0000
31	NA	0.0003	NA
Monthly Average (cfs)	0.0063	0.0018	0.0006

Monthly Discharge

Cubic Feet	16410	4852	1657
Gallons	122754	36294	12399
Acre-Feet	0.38	0.11	0.04

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

WR = No data or unacceptable data due to winter icing conditions.

Gaging station GS49 is located at state plane 2083292, 750652 on a drainage ditch northwest of B566. This station is a Performance Monitoring location and has been installed in support of D&D activities for Building 776/777. This station monitors runoff from the west side of the B776/777 complex. The GS49 drainage area is approximately 3.3 acres. This station collects samples for selected isotopes, metals, tritium, and TSS using continuous flow-paced composite sampling.

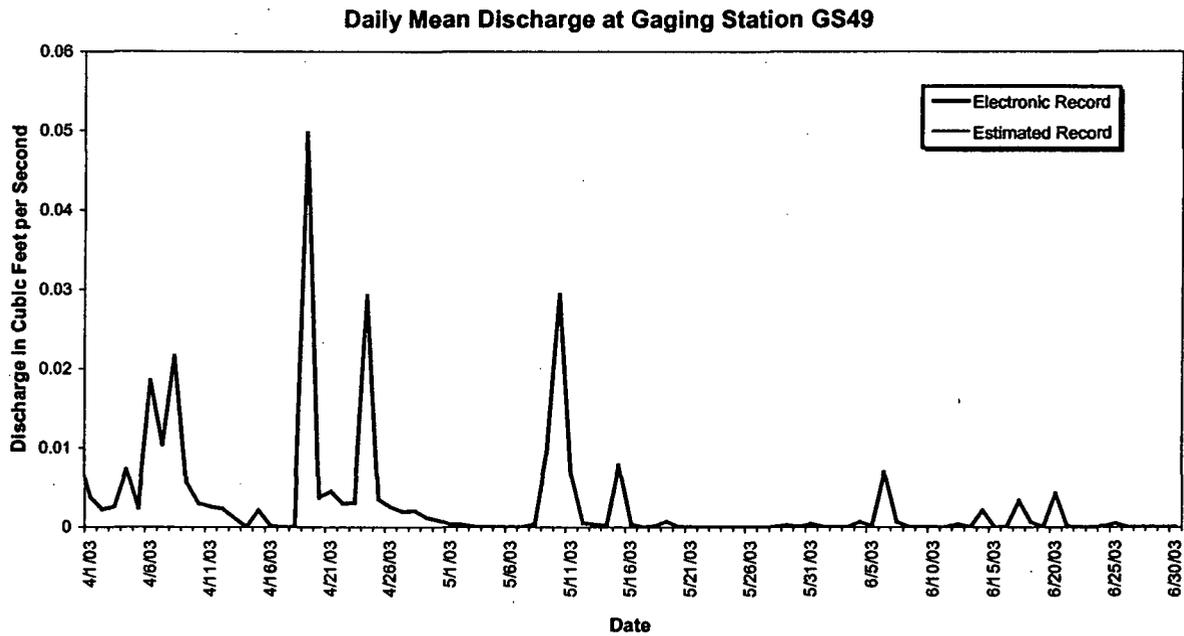


Figure 4-23. Mean Daily Discharge at GS49 Water Year 2003 (Apr, May, Jun 2003).

Table 4-23. Gaging Station GS50 Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.000	0.000	0.000
2	0.000	0.000	0.000
3	0.000	0.000	0.000
4	0.000	0.000	0.000
5	0.000	0.000	0.000
6	0.003	0.000	0.000
7	0.000	0.000	0.000
8	0.005	0.000	0.000
9	0.000	0.000	0.000
10	0.000	0.028	0.000
11	0.000	0.000	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.000	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.028	0.000	0.000
20	0.000	0.000	0.000
21	0.000	0.000	0.000
22	0.000	0.000	0.000
23	0.000	0.000	0.000
24	0.012	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.0016	0.0009	0.0000

Cubic Feet	4123	2461	0
Gallons	30842	18406	0
Acre-Feet	0.09	0.06	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS50 is located at state plane 2085760, 750441 on a drainage ditch northeast of B990. This station is a performance monitoring location that was installed in support of remediation activities for the Solar Ponds and the ongoing GS10 Source Evaluation effort.. This station monitors runoff from the south side of the Solar Ponds and Triangle Area. The GS50 drainage area is approximately 4.1 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

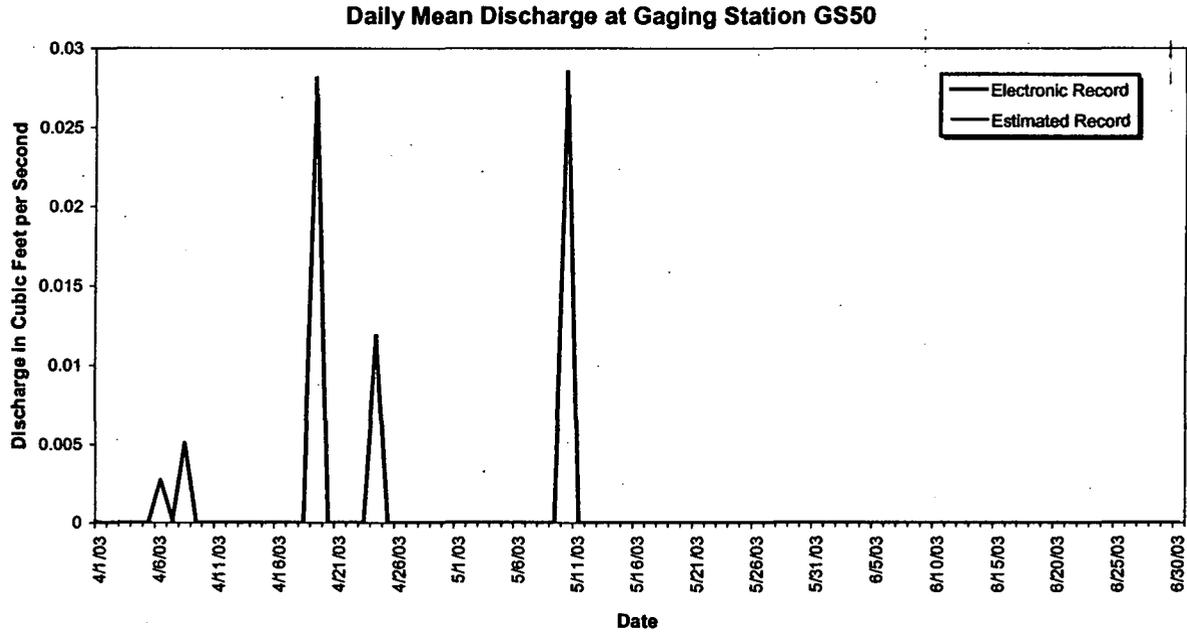


Figure 4-24. Mean Daily Discharge at GS50 Water Year 2003 (Apr, May, Jun 2003).

Table 4-24. Gaging Station GS51: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.000	0.001	0.000
2	0.000	0.001	0.000
3	0.000	0.000	0.000
4	0.001	0.000	0.000
5	0.001	0.000	0.000
6	0.024	0.000	0.001
7	0.011	0.000	0.001
8	0.055	0.000	0.000
9	0.004	0.017	0.000
10	0.000	0.196	0.000
11	0.000	0.020	0.000
12	0.000	0.006	0.000
13	0.000	0.002	0.000
14	0.000	0.001	0.000
15	0.000	0.012	0.000
16	0.000	0.006	0.000
17	0.000	0.001	0.000
18	0.000	0.001	0.000
19	0.162	0.001	0.000
20	0.010	0.001	0.002
21	0.004	0.001	0.001
22	0.004	0.001	0.000
23	0.003	0.000	0.000
24	0.148	0.001	0.000
25	0.011	0.001	0.000
26	0.005	0.001	0.000
27	0.002	0.000	0.000
28	0.001	0.000	0.000
29	0.001	0.000	0.000
30	0.002	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.0150	0.0088	0.0002

Monthly Discharge

Cubic Feet	38795	23589	472
Gallons	290207	176460	3533
Acre-Feet	0.89	0.54	0.01

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

A new Performance monitoring location was installed in support of characterization activities for the 903 Pad and Lip Area. Gaging station GS51 is located at state plane 2086295, 748107 on a drainage ditch southeast of the 903 Pad immediately upstream from the SID. The GS51 drainage area is approximately 3.9 acres. This station collects samples for Pu, Am, uranium isotopes, and TSS using continuous flow-paced composite sampling.

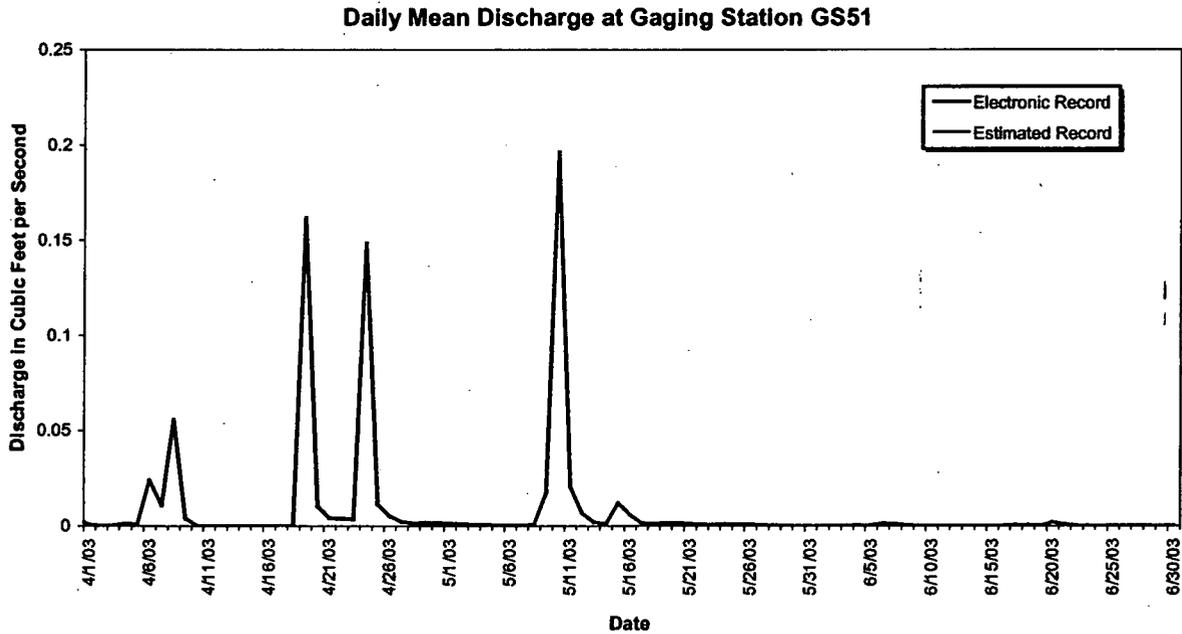


Figure 4-25. Mean Daily Discharge at GS51, Water Year 2003 (Apr, May, Jun 2003).

Table 4-25. Gaging Station GS52: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000
4	0.0000 ^a	0.0000	0.0000
5	0.0000 ^a	0.0000	0.0000
6	0.0001	0.0000	0.0000
7	0.0000	0.0000	0.0000
8	0.0003 ^a	0.0000	0.0000
9	0.0000 ^a	0.0000	0.0000
10	0.0000	0.0003	0.0000
11	0.0000	0.0001	0.0000
12	0.0000	0.0000	0.0000
13	0.0000	0.0000	0.0000
14	0.0000	0.0000	0.0000
15	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0000
17	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000
19	0.0005	0.0000	0.0000
20	0.0001	0.0000	0.0000
21	0.0000	0.0000	0.0000
22	0.0000	0.0000	0.0000
23	0.0000	0.0000	0.0000
24	0.0006	0.0000	0.0000
25	0.0001	0.0000	0.0000
26	0.0000	0.0000	0.0000
27	0.0000	0.0000	0.0000
28	0.0000	0.0000	0.0000
29	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000
31	NA	0.0000	NA
Monthly Average (cfs)	0.0001	0.0000	0.0000

Monthly Discharge

Cubic Feet	134	35	0
Gallons	1003	264	0
Acre-Feet	0.00	0.00	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

A new Performance monitoring location was installed in support of characterization activities for the 903 Pad and Lip Area. Gaging station GS52 is located at state plane 2086715, 748043 on a gully southeast of the 903 Pad immediately upstream from the SID. The GS52 drainage area is approximately 4.3 acres. This station collects samples for Pu, Am, uranium isotopes, and TSS using continuous flow-paced composite sampling.

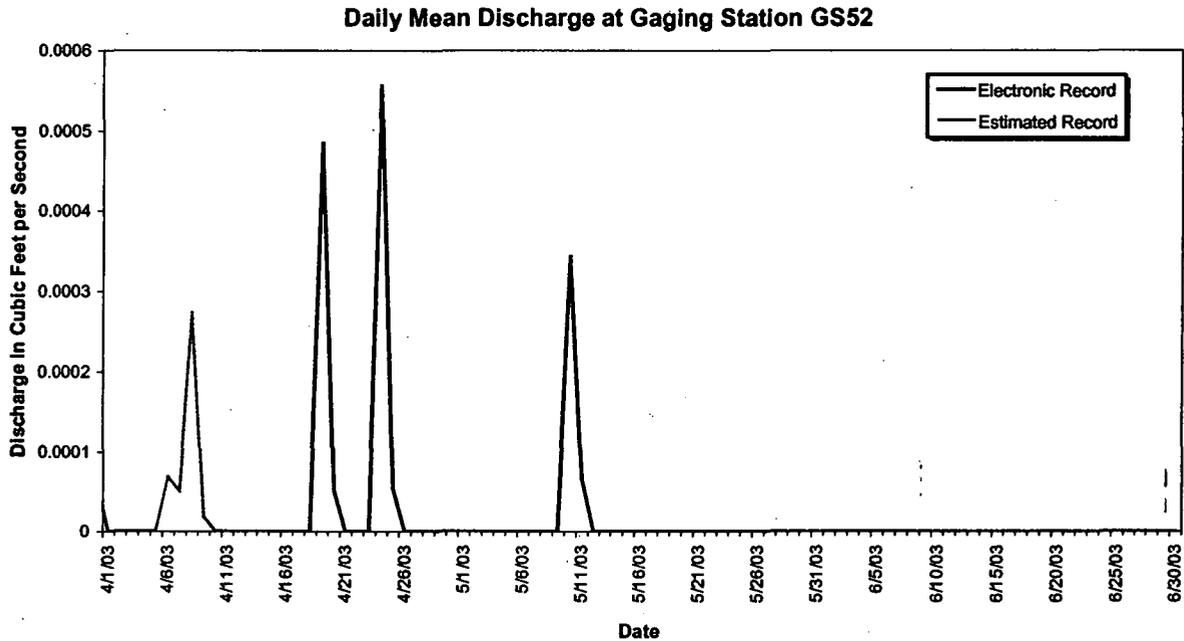


Figure 4-26. Mean Daily Discharge at GS52, Water Year 2003 (Apr, May, Jun 2003).

Table 4-26. Gaging Station GS53: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.000	0.000	0.000
2	0.000	0.000	0.000
3	0.000	0.000	0.000
4	0.000 ^a	0.000	0.000
5	0.000 ^a	0.000	0.000
6	0.000	0.000	0.000
7	0.000 ^a	0.000	0.000 ^a
8	0.000 ^a	0.000	0.000
9	0.000 ^a	0.000	0.000
10	0.000	0.000	0.000
11	0.000	0.000	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.000	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.000	0.000	0.000
20	0.000	0.000	0.000
21	0.000	0.000	0.000
22	0.000	0.000	0.000
23	0.000	0.000	0.000
24	0.000	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.0000	0.0000	0.0000

Monthly Discharge

Cubic Feet	71	15	0
Gallons	528	110	3
Acre-Feet	0.00	0.00	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

A new Performance monitoring location was installed in support of characterization activities for the 903 Pad and Lip Area. Gaging station GS53 is located at state plane 2087071, 748074 on a gully east-southeast of the 903 Pad immediately upstream from the SID. The GS53 drainage area is approximately 10.1 acres. This station collects samples for Pu, Am, uranium isotopes, and TSS using continuous flow-paced composite sampling.

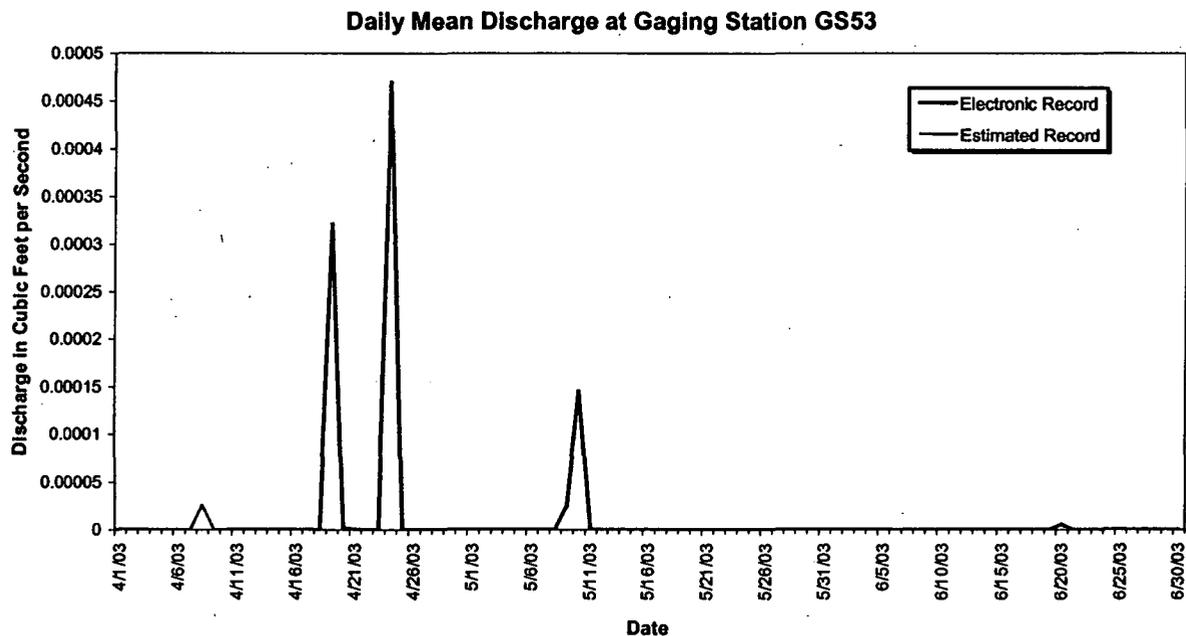


Figure 4-27. Mean Daily Discharge at GS53, Water Year 2003 (Apr, May, Jun 2003).

Table 4-27. Gaging Station GS54: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.000	0.000	0.000
2	0.000	0.000	0.000
3	0.000	0.000	0.000
4	0.000	0.000	0.000
5	0.000	0.000	0.000
6	0.000 ^a	0.000	0.000
7	0.000 ^a	0.000	0.000
8	0.000 ^a	0.000	0.000
9	0.000 ^a	0.000 ^a	0.000
10	0.000	0.000 ^a	0.000
11	0.000	0.000 ^a	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.000	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.000 ^a	0.000	0.000
20	0.000 ^a	0.000	0.000
21	0.000	0.000	0.000
22	0.000	0.000	0.000
23	0.000	0.000	0.000
24	0.000	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.0000	0.0000	0.0000

Monthly Discharge

Cubic Feet	5	0	0
Gallons	40	3	2
Acre-Feet	0.00	0.00	0.00

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

A new Performance monitoring location was installed in support of characterization activities for the 903 Pad and Lip Area. Gaging station GS54 is located at state plane 2087476, 748188 on a gully east-southeast of the 903 Pad immediately upstream from the SID. The GS54 drainage area is approximately 9.5 acres. This station collects samples for Pu, Am, uranium isotopes, and TSS using continuous flow-paced composite sampling.

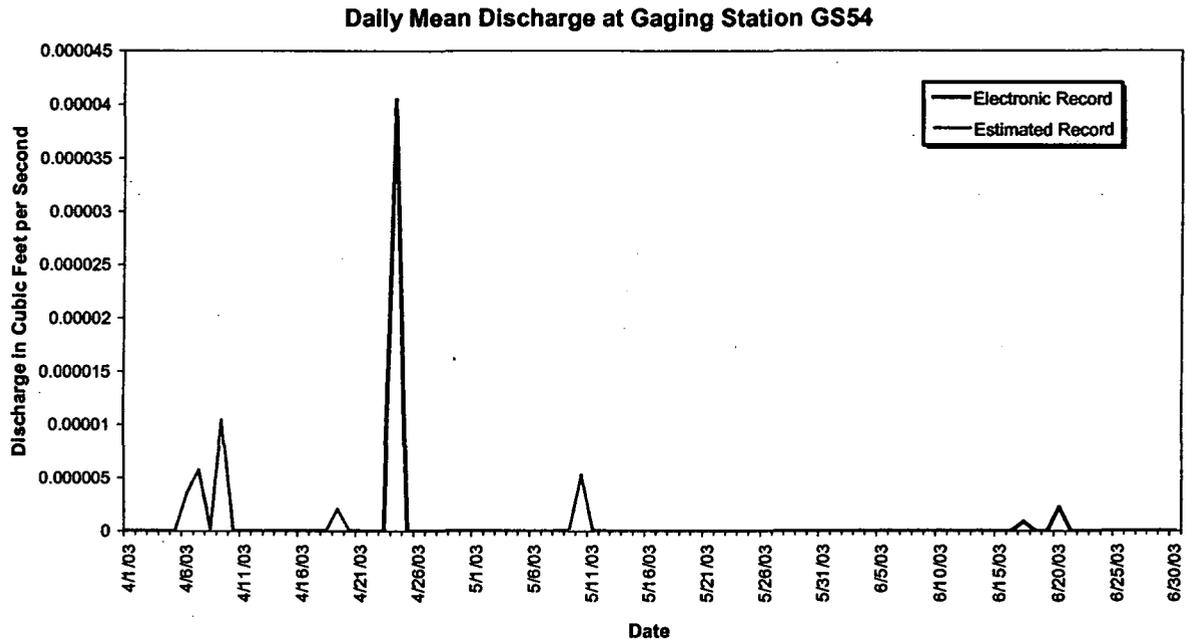


Figure 4-28. Mean Daily Discharge at GS54, Water Year 2003 (Apr, May, Jun 2003).

Table 4-28. Gaging Station GS55: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.047	0.029	0.015
2	0.040	0.026	0.015
3	0.049	0.022	0.017
4	0.056	0.022	0.030
5	0.037	0.020	0.036
6	0.137	0.018	0.057
7	0.087	0.017	0.034
8	0.150	0.017	0.009
9	0.051	0.087	0.008
10	0.041	0.258	0.008
11	0.036	0.046	0.009
12	0.033	0.027	0.014
13	0.031	0.023	0.019
14	0.031	0.018	0.019
15	0.038	0.069	0.014
16	0.030	0.026	0.017
17	0.027	0.006	0.031
18	0.027	0.001	0.030
19	0.412	0.001	0.009
20	0.056	0.001	0.060
21	0.055	0.053	0.019
22	0.046	0.016	0.009
23	0.046	0.013	0.009
24	0.261	0.013	0.011
25	0.055	0.014	0.012
26	0.043	0.013	0.010
27	0.037	0.011	0.009
28	0.035	0.011	0.009
29	0.032	0.009	0.009
30	0.033	0.009	0.008
31	NA	0.011	NA
Monthly Average (cfs)	0.0687	0.0293	0.0186

Monthly Discharge

Cubic Feet	178045	78587	48146
Gallons	1331868	587870	360160
Acre-Feet	4.09	1.80	1.11

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS55 was installed as a Performance monitoring location in support of D&D activities for the B881 Area. GS55 is located at state plane 2084112, 747824 on the outlet of a small wetland area draining the B881 Area upstream from the SID south of B881. The GS55 drainage area is approximately 13.7 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

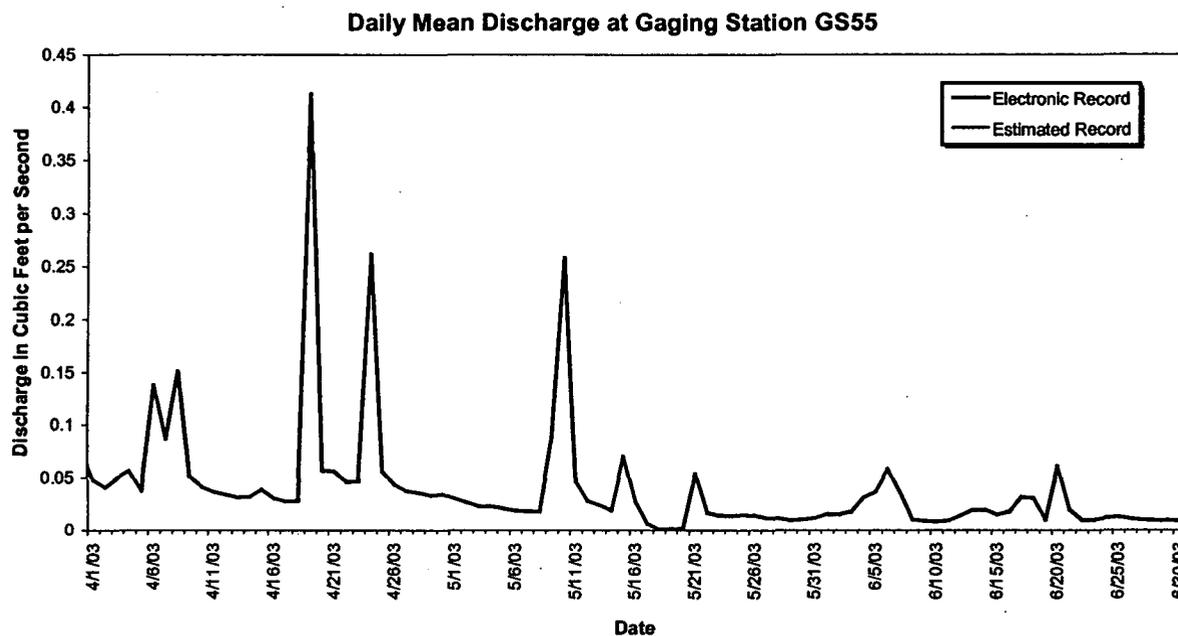


Figure 4-29. Mean Daily Discharge at GS55, Water Year 2003 (Apr, May, Jun 2003).

Table 4-29. Gaging Station GS56: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.186	0.071	0.000
2	0.102	0.064	0.000
3	0.067	0.046	0.000
4	0.074	0.041	0.000
5	0.062	0.032	0.000
6	0.245	0.032	0.000
7	0.189	0.034	0.001
8	0.605	0.037	0.000
9	0.219	0.077	0.000
10	0.115	0.878	0.000
11	0.077	0.367	0.000
12	0.059	0.153	0.000
13	0.044	0.089	0.000
14	0.048	0.064	0.000
15	0.068	0.095	0.000
16	0.055	0.115	0.000
17	0.059	0.054	0.000
18	0.045	0.045	0.001
19	1.312	0.052	0.000
20	0.265	0.049	0.000
21	0.158	0.036	0.001
22	0.161	0.025	0.000
23	0.136	0.018	0.000
24	1.193	0.021	0.000
25	0.240	0.022	0.000
26	0.140	0.015	0.000
27	0.097	0.009	0.000
28	0.097	0.000	0.000
29	0.096	0.000	0.000
30	0.092	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.2102	0.0820	0.0001

Monthly Discharge

Cubic Feet	544751	219565	362
Gallons	4075023	1642457	2709
Acre-Feet	12.50	5.04	0.01

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station GS56 was installed on 9/26/02 as a performance monitoring location in support of accelerated actions for the Present Landfill in No Name Gulch. GS56 is located at state plane 2085908, 753385 in No Name Gulch 1350 feet downstream of the Landfill Pond. The GS56 drainage area is approximately 130 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

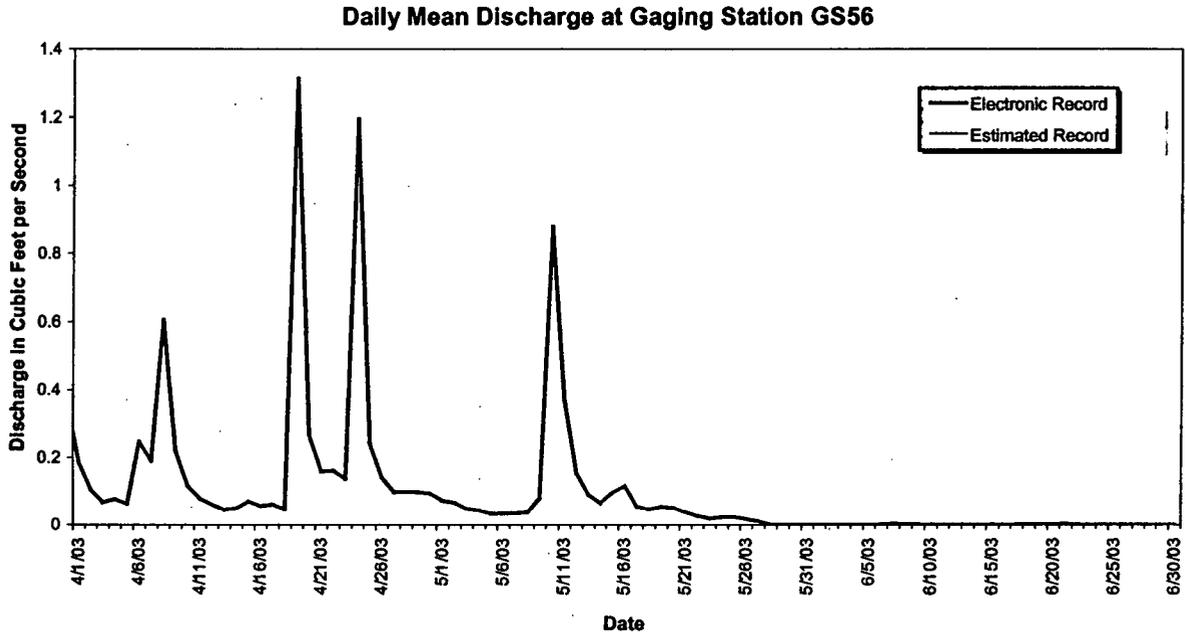


Figure 4-30. Mean Daily Discharge at GS56, Water Year 2003 (Apr, May, Jun 2003).

Table 4-30. Gaging Station GS57: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.016	0.000	0.000
2	0.010	0.000	0.000
3	0.018	0.000	0.000
4	0.019	0.000	0.000
5	0.009	0.000	0.000
6	0.107	0.000	0.025
7	0.050	0.000	0.018
8	0.113	0.000	0.000
9	0.016	0.070	0.000
10	0.005	0.229	0.000
11	0.003	0.017	0.000
12	0.001	0.004	0.000
13	0.001	0.001	0.000
14	0.000	0.000	0.000
15	0.002	0.051	0.000
16	0.001	0.008	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.001
19	0.388	0.000	0.000
20	0.016	0.000	0.040
21	0.009	0.000	0.007
22	0.007	0.000	0.000
23	0.004	0.000	0.000
24	0.191	0.000	0.000
25	0.011	0.000	0.000
26	0.004	0.000	0.000
27	0.001	0.000	0.000
28	0.001	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.0334	0.0123	0.0030

Monthly Discharge

Cubic Feet	86654	32917	7886
Gallons	648220	246240	58990
Acre-Feet	1.99	0.76	0.18

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

WR = No data or unacceptable data due to winter icing conditions.

Gaging station GS57 was installed as a Performance monitoring location in support of D&D activities for the 400 Area. GS57 is located at state plane 2082847, 749006 on a ditch NE of B444. The GS57 drainage area is approximately 8.6 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

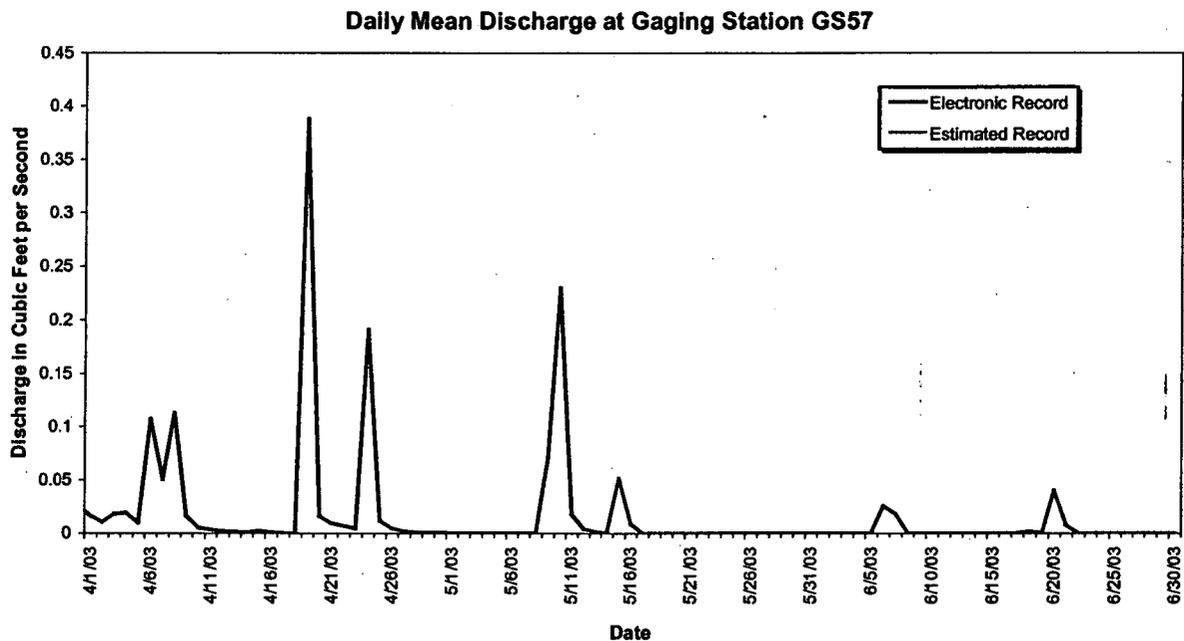


Figure 4-31. Mean Daily Discharge at GS57 Water Year 2003 (Apr, May, Jun 2003).

Table 4-31. Gaging Station GS59: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	1.911	0.485	0.055
2	1.000	0.447	0.049
3	0.688	0.382	0.049
4	0.753	0.340	0.199
5	0.547	0.310	0.129
6	1.445	0.315	0.088
7	1.162	0.315	0.240
8	4.571	0.337	0.240
9	1.790	0.615	0.223
10	0.828	3.198	0.216
11	0.615	1.278	0.205
12	0.499	0.544	0.199
13	0.399	0.340	0.182
14	0.346	0.244	0.159
15	0.347	0.357	0.107
16	0.316	0.604	0.071
17	0.263	0.289	0.053
18	0.244	0.266	0.063
19	9.756	0.370	0.050
20	3.391 ^a	0.360	0.056
21	1.024	0.310	0.056
22	0.885	0.264	0.036
23	0.731	0.266	0.030
24	9.478	0.303	0.042
25	1.936	0.305	0.053
26	0.961	0.156	0.044
27	0.638	0.101	0.029
28	0.535	0.078	0.017
29	0.526	0.064	0.015
30	0.547	0.054	0.008
31	NA	0.056	NA
Monthly Average (cfs)	1.6045	0.4307	0.0988

Monthly Discharge

Cubic Feet	4158751	1153615	256041
Gallons	31109620	8629643	1915319
Acre-Feet	95.46	26.48	5.88

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

WR = No data or unacceptable data due to winter icing conditions.

Gaging station GS59 was installed on 11/19/02 as a Performance monitoring location in support of accelerated actions for the Original Landfill in Woman Creek. GS59 is located at state plane 2083231, 747137 in Woman Creek south of former B850. The GS59 drainage area includes undetermined areas west of Highway 93 and the total area is unknown. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

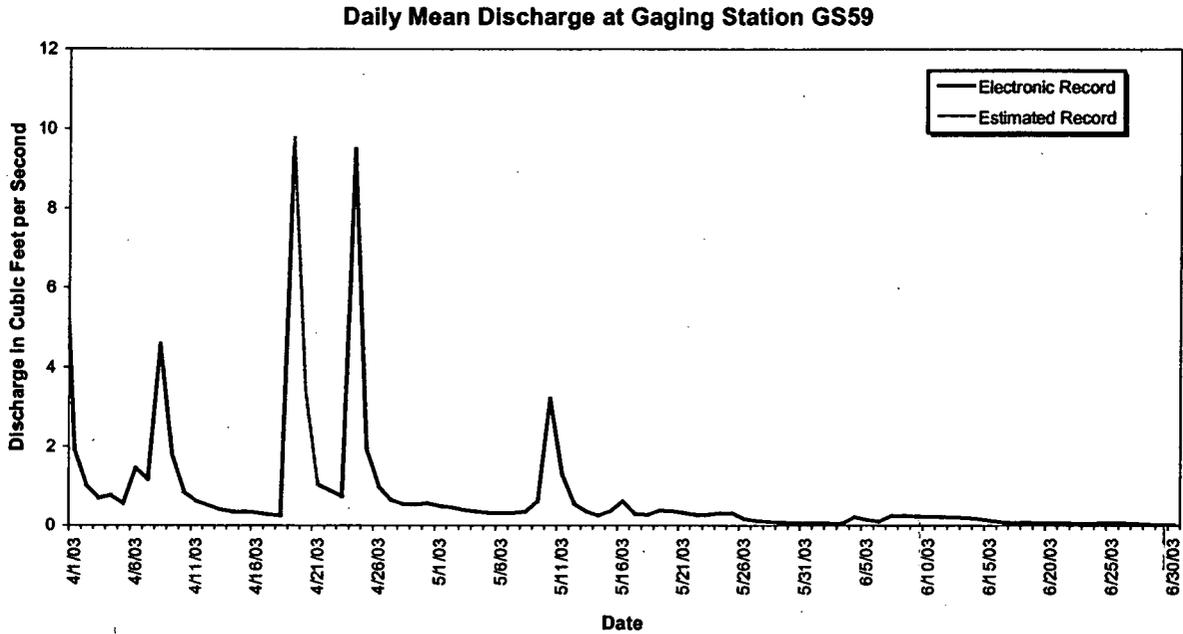


Figure 4-32. Mean Daily Discharge at GS59 Water Year 2003 (Apr, May, Jun 2003).

Table 4-32. Gaging Station 995 POE Mean Daily Discharge (cubic feet per second).^a

Day	Apr-03	May-03	Jun-03
1	0.426	0.343	0.175
2	0.435	0.165	0.171
3	0.277	0.217	0.125
4	0.255	0.238	0.147
5	0.311	0.207	0.167
6	0.315	0.207	0.169
7	0.393	0.214	0.163
8	0.371	0.173	0.131
9	0.462	0.175	0.247
10	0.337	0.305	0.296
11	0.269	0.374	0.214
12	0.201	0.351	0.170
13	0.134	0.364	0.128
14	0.383	0.356	0.135
15	0.314	0.183	0.138
16	0.257	0.177	0.188
17	0.184	0.207	0.181
18	0.179	0.256	0.265
19	0.505	0.236	0.129
20	0.372	0.257	0.161
21	0.436	0.143	0.148
22	0.348	0.129	0.138
23	0.348	0.160	0.170
24	0.286	0.389	0.198
25	0.377	0.241	0.278
26	0.285	0.190	0.139
27	0.361	0.153	0.122
28	0.252	0.179	0.124
29	0.245	0.175	0.016
30	0.266	0.170	0.068
31		0.218	
Monthly Average (cfs)	0.320	0.231	0.163

Monthly Discharge

Cubic Feet	828204	617858	423594
Gallons	6195400	4621900	3168700
Acre-Feet	19.01	14.18	9.72

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

a – Flow data provided above for this location is measured using the totalizer at B995.

Gaging station 995POE is located on the Building 995 (WWTP) effluent flow stream at the V-notch weir immediately below the UV disinfection equipment. This station is a RFCA Action Level Framework Point of Evaluation and monitors effluent from the Site wastewater treatment plant. This station collects samples for selected radionuclides using continuous flow-paced composite sampling.

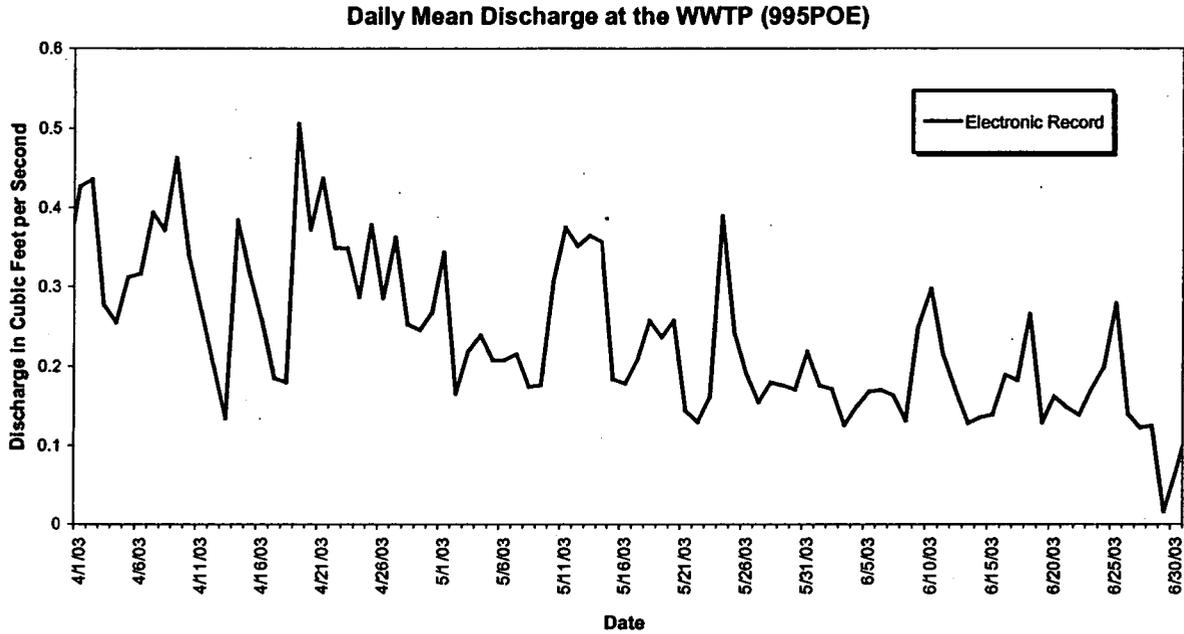


Figure 4-33. Mean Daily Discharge at 995 POE Water Year 2003 (Apr, May, Jun 2003).

Table 4-33. Gaging Station SW021: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	No Data	No Data	0.000
2	No Data	No Data	0.000
3	No Data	No Data	0.000
4	No Data	No Data	0.001
5	No Data	No Data	0.001
6	No Data	No Data	0.003
7	No Data	0.001	0.005
8	No Data	0.001	0.000
9	No Data	0.017	0.000
10	No Data	0.164	0.000
11	No Data	0.009	0.000
12	No Data	0.002	0.000
13	No Data	0.001	0.001
14	No Data	0.001	0.001
15	No Data	0.013	0.001
16	No Data	0.004	0.000
17	No Data	0.001	0.002
18	No Data	0.001	0.004
19	No Data	0.001	0.001
20	No Data	0.001	0.007
21	No Data	0.001	0.003
22	No Data	0.000	0.001
23	No Data	0.000	0.001
24	No Data	0.000	0.001
25	No Data	0.000	0.001
26	No Data	0.000	0.001
27	No Data	0.000	0.001
28	No Data	0.000	0.001
29	No Data	0.000	0.001
30	No Data	0.000	0.001
31	NA	0.000	NA
Monthly Average (cfs)	No Data	0.009	0.001

Monthly Discharge

Cubic Feet	No Data	18906	3331
Gallons	No Data	141429	24917
Acre-Feet	No Data	0.43	0.08

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station SW021 was upgraded on 5/6/03 as a Performance monitoring location in support of closure activities for B991. SW021 is located at state plane 2086077, 750187 on a culvert east of B991 tributary to S. Walnut Cr. The SW021 drainage area is approximately 25 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

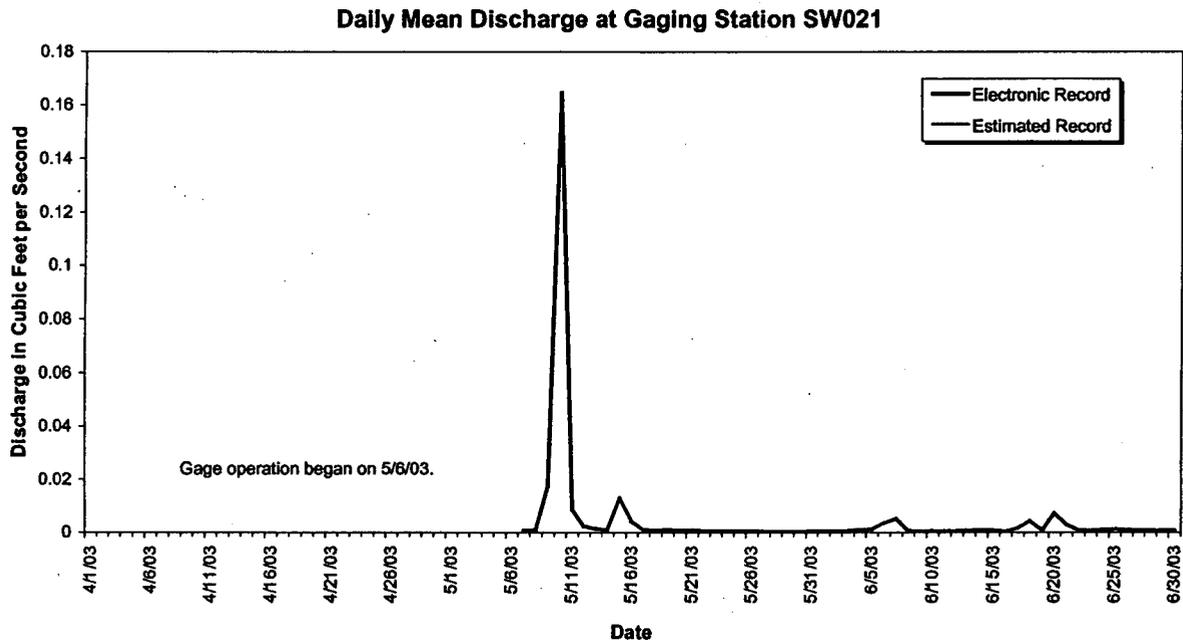


Figure 4-34. Mean Daily Discharge at SW021, Water Year 2003 (Apr, May, Jun 2003).

Table 4-34. Gaging Station SW022: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.054	0.002	0.000
2	0.030	0.002	0.000
3	0.090	0.001	0.000
4	0.050	0.000	0.000
5	0.013	0.000	0.000
6	0.592	0.000	0.076
7	0.215	0.002	0.109
8	0.532	0.001	0.000
9	0.050	0.348	0.000
10	0.019	1.226	0.000
11	0.008	0.036	0.000
12	0.004	0.020	0.000
13	0.003	0.007	0.000
14	0.003	0.004	0.007
15	0.007	0.233 ^a	0.000
16	0.002	0.036	0.000
17	0.001	0.002	0.028
18	0.000	0.001	0.039
19	1.850 ^a	0.001	0.000
20	0.042	0.001	0.172
21	0.032	0.001	0.055
22	0.018	0.000	0.000
23	0.010	0.000	0.000
24	1.017	0.000	0.000
25	0.027	0.000	0.000
26	0.010	0.000	0.000
27	0.006	0.000	0.000
28	0.015	0.000	0.000
29	0.005	0.000	0.000
30	0.007	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.157	0.062	0.016

Monthly Discharge

Cubic Feet	406962	166266	41902
Gallons	3044290	1243757	313452
Acre-Feet	9.34	3.82	0.96

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station SW022 is located 39° 53' 30"N, 105° 11' 30"W, at the Central Avenue Ditch at the Inner East Gate (See Section 4 Map). This location is a RFCA New Source Detection Location and monitors water in the Central Avenue Ditch entering the B-Series Ponds and South Walnut Creek. Storm event samples are collected for selected radionuclides.

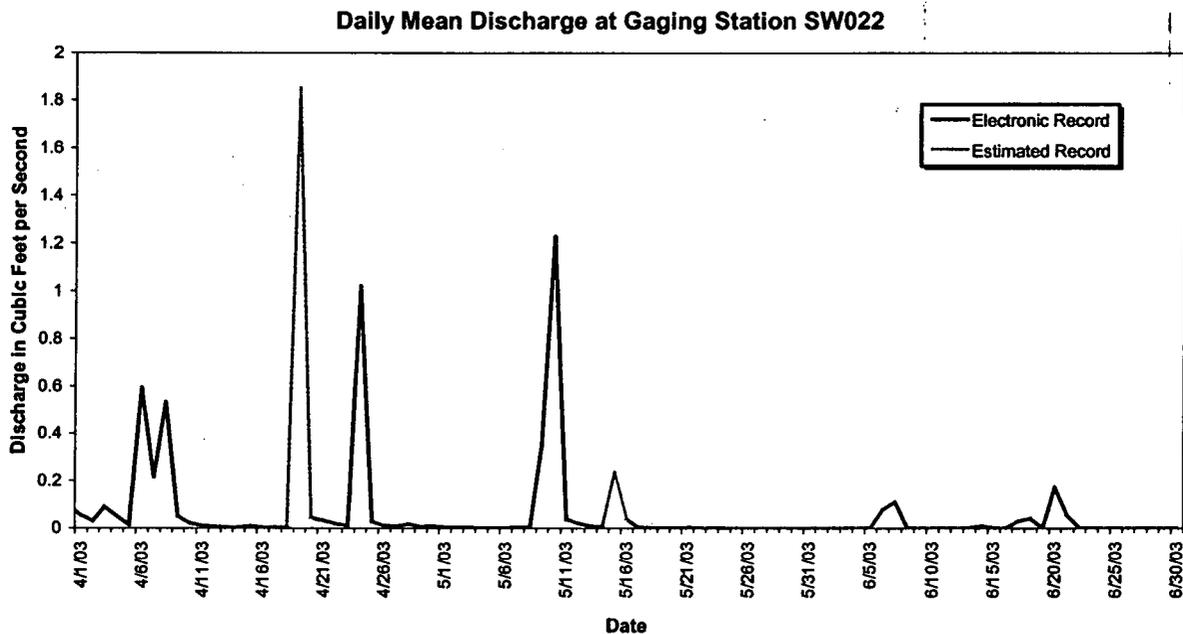


Figure 4-35. Mean Daily Discharge at SW022, Water Year 2003 (Apr, May, Jun 2003).

Table 4-35. Gaging Station SW027: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.085	0.004	0.000
2	0.044	0.004	0.000
3	0.012	0.004	0.000
4	0.067	0.004	0.000
5	0.021	0.003	0.000
6	0.371	0.002	0.000
7	0.217	0.002	0.006
8	0.738	0.002	0.002
9	0.146	0.003	0.000
10	0.027	1.500	0.000
11	0.009	0.223	0.000
12	0.005	0.027	0.000
13	0.004	0.109	0.000
14	0.003	0.018	0.000
15	0.002	0.007	0.000
16	0.003	0.160	0.000
17	0.002	0.006	0.000
18	0.002	0.003	0.000
19	1.960	0.002	0.000
20	0.210	0.002	0.000
21	0.020	0.001	0.000
22	0.033	0.001	0.000
23	0.008	0.000	0.000
24	1.199	0.000	0.000
25	0.092	0.000	0.000
26	0.020	0.000	0.000
27	0.007	0.000	0.000
28	0.004	0.000	0.000
29	0.003	0.000	0.000
30	0.003	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.177	0.067	0.000

Monthly Discharge

Cubic Feet	459271	180316	734
Gallons	3435584	1348855	5493
Acre-Feet	10.54	4.14	0.02

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station SW027 is located 39° 53' 12" N, 105° 11' 4"W, at the South Interceptor Ditch above Pond C-2 (See Section 4 Map). This station is a RFCA Action Level Framework and a New Source Detection Location and monitors water in the South Interceptor Ditch entering Pond C-2. This station collects samples for selected radionuclides, metals, and water quality parameters using continuous flow-paced sampling.

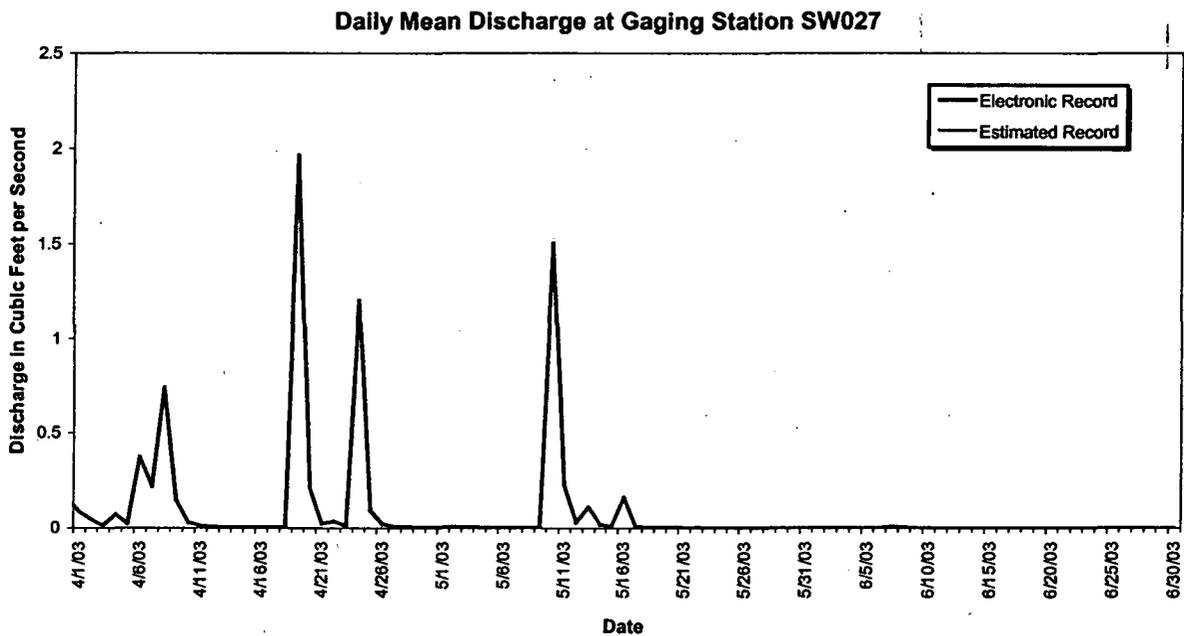


Figure 4-36. Mean Daily Discharge at SW027, Water Year 2003 (Apr, May, Jun 2003).

Table 4-36. Gaging Station SW036: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.032	0.022	0.000
2	0.025	0.021	0.000
3	0.020	0.018	0.000
4	0.020	0.016	0.000
5	0.016	0.014	0.000
6	0.033	0.015	0.000
7	0.028	0.015	0.004
8	0.046	0.015	0.000
9	0.033	0.025	0.000
10	0.021	0.073	0.000
11	0.015	0.037	0.000
12	0.013	0.024	0.000
13	0.011	0.019	0.000
14	0.011	0.017	0.000
15	0.013	0.022	0.000
16	0.011	0.024	0.000
17	0.012	0.016	0.000
18	0.012	0.015	0.000
19	0.112	0.016	0.000
20	0.059	0.017	0.000
21	0.040 ^a	0.014	0.000
22	0.033 ^a	0.012	0.000
23	0.027	0.010	0.000
24	0.079	0.010	0.000
25	0.044	0.011	0.000
26	0.034	0.009	0.000
27	0.027	0.006	0.000
28	0.026	0.003	0.000
29	0.027	0.002	0.000
30	0.025	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.0302	0.0167	0.0001

Monthly Discharge

Cubic Feet	78310	44616	358
Gallons	585802	333754	2681
Acre-Feet	1.80	1.02	0.01

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station SW036 was installed as a Performance monitoring location in support of closure activities for the Old Lanfill adjacent to Woman Creek. SW036 is located at state plane 2082579, 747762 on the SID south of B664. The SW036 drainage area is approximately 16.4 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

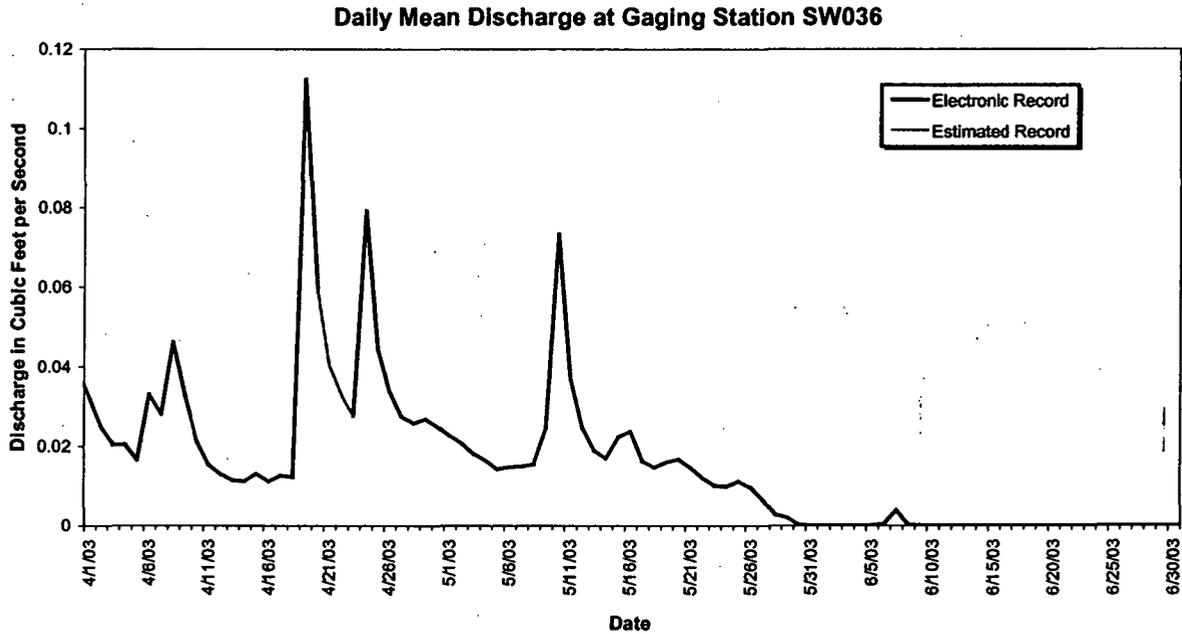


Figure 4-37. Mean Daily Discharge at SW036, Water Year 2003 (Apr, May, Jun 2003).

Table 4-37. Gaging Station SW055: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.0048	0.0051	0.0026
2	0.0020	0.0046	0.0020
3	0.0007 ^a	0.0041	0.0019
4	0.0025	0.0039	0.0023
5	0.0007	0.0035	0.0020
6	0.0208	0.0034	0.0022
7	0.0102	0.0035	0.0030
8	0.0427	0.0034	0.0015
9	0.0073	0.0158	0.0011
10	0.0025	0.1531	0.0009
11	0.0012	0.0225	0.0007
12	0.0007	0.0117	0.0007
13	0.0005	0.0066	0.0010
14	0.0003	0.0044	0.0011
15	0.0009	0.0127	0.0007
16	0.0004	0.0089	0.0005
17	0.0008	0.0043	0.0018
18	0.0008	0.0031	0.0030
19	0.1352	0.0033	0.0010
20	0.0144	0.0034	0.0025
21	0.0093	0.0026	0.0018
22	0.0093	0.0019	0.0008
23	0.0091	0.0015	0.0007
24	0.1136	0.0015	0.0010
25	0.0172	0.0015	0.0010
26	0.0115	0.0012	0.0005
27	0.0073	0.0006	0.0006
28	0.0063	0.0002	0.0005
29	0.0061	0.0001	0.0008
30	0.0059	0.0000	0.0008
31	NA	0.0013	NA
Monthly Average (cfs)	0.0148	0.0095	0.0014

Monthly Discharge

Cubic Feet	38440	25371	3549
Gallons	287552	189785	26550
Acre-Feet	0.882	0.582	0.081

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

A new Performance monitoring location was installed in support of remediation activities for the 903 Pad and Lip Area. Gaging station SW055 is located at state plane 2086059, 748501 on a drainage ditch southeast of the 903 Pad just inside of the inner security fence. This station monitors runoff from the southeast side of the 903 Pad area. The SW055 drainage area is approximately 17.3 acres. This station collects samples for Pu, Am, and TSS using continuous flow-paced composite sampling.

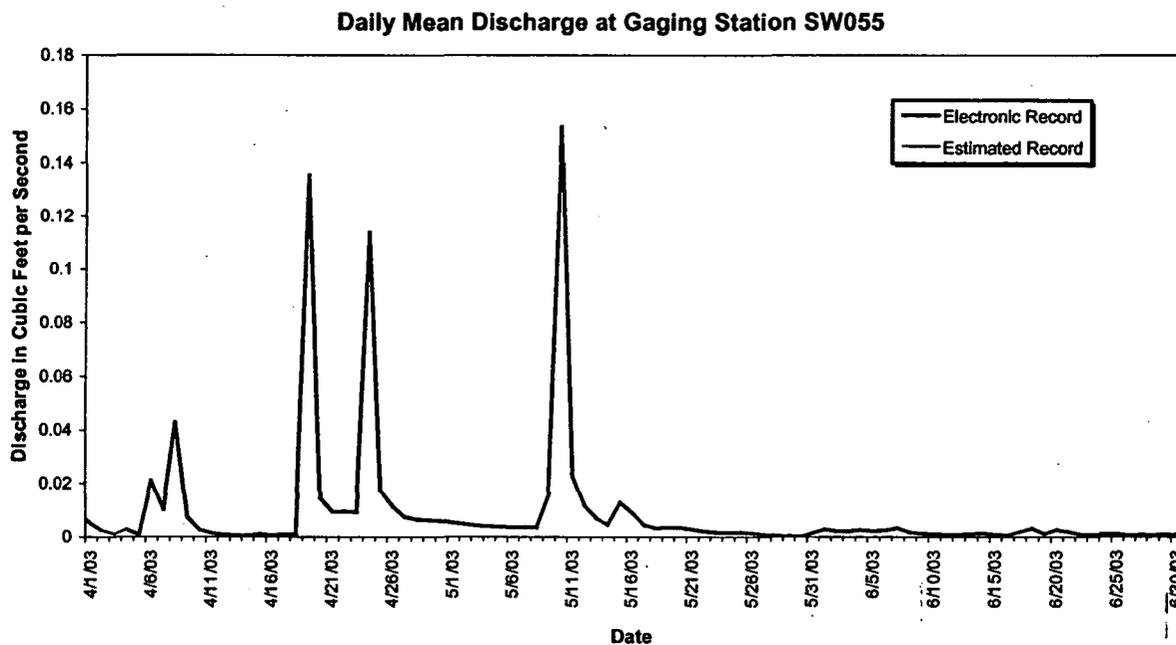


Figure 4-38. Mean Daily Discharge at SW055, Water Year 2003 (Apr, May, Jun 2003).

Table 4-38. Gaging Station SW091: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.018	0.000	0.000
2	0.010	0.000	0.000
3	0.006	0.000	0.000
4	0.006	0.000	0.000
5	0.005	0.000	0.000
6	0.018	0.000	0.000
7	0.010	0.000	0.000
8	0.031	0.000	0.000
9	0.010	0.000	0.000
10	0.006	0.108	0.000
11	0.005	0.012	0.000
12	0.004	0.005	0.000
13	0.004	0.004	0.000
14	0.002	0.002	0.000
15	0.000	0.004	0.000
16	0.000	0.007	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.104	0.000	0.000
20	0.008	0.000	0.000
21	0.005	0.000	0.000
22	0.005	0.000	0.000
23	0.005	0.000	0.000
24	0.071	0.000	0.000
25	0.009	0.000	0.000
26	0.006	0.000	0.000
27	0.004	0.000	0.000
28	0.002	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	NA	0.000	NA
Monthly Average (cfs)	0.012	0.005	0.000

Monthly Discharge

Cubic Feet	30655	12330	0
Gallons	229318	92237	0
Acre-Feet	0.704	0.283	0.000

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

WR = No data or unacceptable data due to winter icing conditions.

Gaging Station SW091 is located at State Plane 2086064; 751322, along the drainage NE of the Solar Ponds draining to the A-Series Ponds (See Section 4 Map). This location is a RFCA New Source Detection Location and monitors water draining from the area NE of the Solar Ponds. Storm event samples are collected for selected radionuclides.

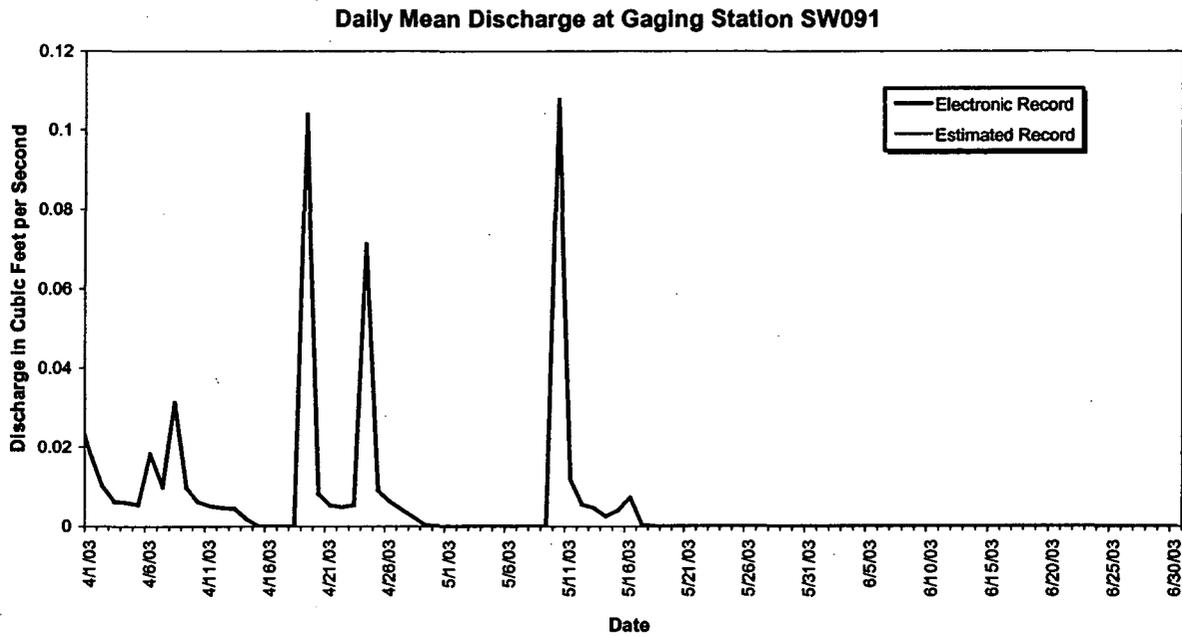


Figure 4-39. Mean Daily Discharge at SW091, Water Year 2003 (Apr, May, Jun 2003).

Table 4-39. Gaging Station SW093: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.448	0.062	0.073
2	0.247	0.058	0.063
3	0.262	0.054	0.063
4	0.218	0.050	0.074
5	0.100	0.047	0.075
6	1.403	0.046	0.277
7	0.722	0.045	0.375
8	1.733	0.047	0.082
9	0.440	0.648	0.071
10	0.193	3.435	0.062
11	0.118	0.364	0.168
12	0.083	0.099	0.192
13	0.075	0.065	0.202
14	0.064	0.057	0.227
15	0.084	0.481	0.196
16	0.066	0.150	0.199
17	0.064	0.057	0.264
18	0.058	0.052	0.331
19	5.431	0.052	0.211
20	0.403	0.052	0.399
21	0.234	0.049	0.263
22	0.142	0.047	0.183
23	0.116	0.045	0.183
24	2.974	0.044	0.196
25	0.294	0.044	0.195
26	0.155	0.042	0.174
27	0.088	0.041	0.163
28	0.074	0.044	0.161
29	0.071	0.063	0.196
30	0.068	0.074	0.159
31	NA	0.087	NA
Monthly Average (cfs)	0.548	0.210	0.183

Monthly Discharge

Cubic Feet	1419346	561921	473205
Gallons	10617447	4203463	3539820
Acre-Feet	32.58	12.90	10.86

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station SW093 is located 39° 53' 51"N, 105° 11' 48"W, along North Walnut Creek at the 72" culvert 1000 feet above the Pond A-1 Bypass (See Section 4 Map). This station is a RFCA Action Level Framework and a New Source Detection Location and monitors water leaving the Site Industrial Area and entering the A-Series Ponds and North Walnut Creek. This station collects samples for selected radionuclides, metals, and water quality parameters using continuous flow-paced sampling.

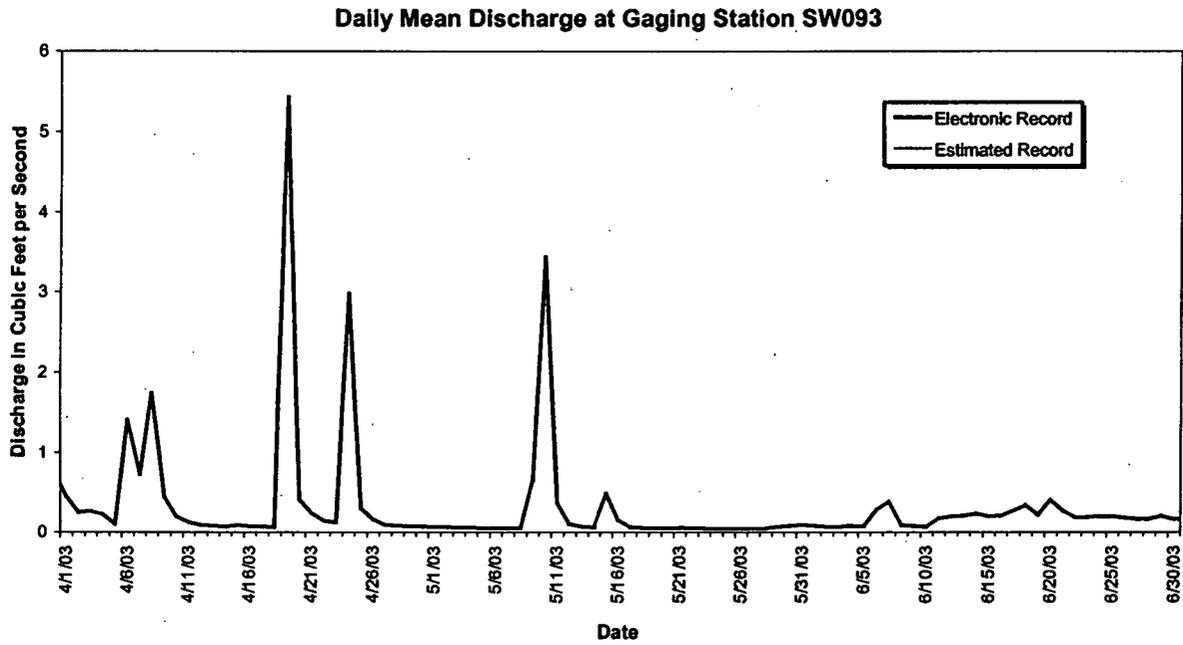


Figure 4-40. Mean Daily Discharge at SW093, Water Year 2003 (Apr, May, Jun 2003).

Table 4-40. Gaging Station SW118: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.251	0.088	0.010
2	0.195	0.075	0.009
3	0.180	0.064	0.008
4	0.197	0.063	0.009
5	0.170	0.058	0.013
6	0.403	0.053	0.019
7	0.310	0.055	0.060
8	0.459	0.057	0.027
9	0.264	0.122	0.015
10	0.174	0.536	0.015
11	0.144	0.204	0.082
12	0.125	0.114	0.099
13	0.106	0.079	0.110
14	0.094	0.065	0.111
15	0.096	0.096	0.098
16	0.096	0.097	0.081
17	0.075	0.059	0.084
18	0.066	0.051	0.094
19	0.752	0.063	0.093
20	0.242	0.074	0.098
21	0.169	0.056	0.089
22	0.141	0.039	0.085
23	0.136	0.031	0.089
24	0.503	0.034	0.099
25	0.196	0.033	0.126
26	0.132	0.031	0.110
27	0.109	0.022	0.100
28	0.092	0.016	0.089
29	0.084	0.011	0.089
30	0.088	0.007	0.088
31	NA	0.010	NA
Monthly Average (cfs)	0.202	0.076	0.070

Monthly Discharge

Cubic Feet	522664	204096	181370
Gallons	3909799	1526743	1356742
Acre-Feet	12.00	4.68	4.16

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

WR = No data or unacceptable data due to winter icing conditions.

Buffer Zone Hydrologic monitoring location SW118 is located at state plane 2082961, 751417 on North Walnut Creek northeast of B371 along the IA Perimeter Road. This station monitors runoff from the area northwest of the former PA. The SW118 drainage area is approximately 50 acres. This station collects flow data only.

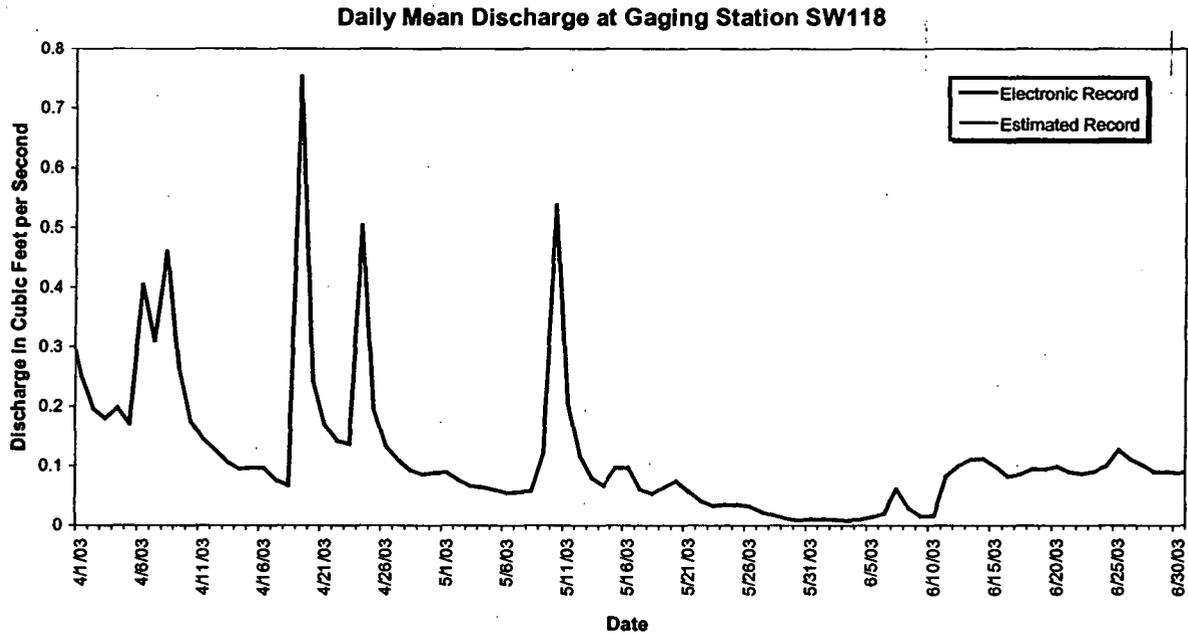


Figure 4-41. Mean Daily Discharge at SW118, Water Year 2003 (Apr, May, Jun 2003).

Table 4-41. Gaging Station SW119: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.0073	0.0000	0.0000
2	0.0007	0.0000	0.0000
3	0.0011	0.0000	0.0000
4	0.0035	0.0000	0.0000
5	0.0000	0.0000	0.0000
6	0.0142	0.0000	0.0000
7	0.0088	0.0000	0.0000
8	0.0176	0.0000	0.0000
9	0.0065	0.0045	0.0000
10	0.0018	0.0412	0.0000
11	0.0000	0.0080	0.0000
12	0.0000	0.0000	0.0000
13	0.0000	0.0000	0.0000
14	0.0000	0.0000	0.0000
15	0.0000	0.0060	0.0000
16	0.0000	0.0025	0.0000
17	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000
19	0.0496	0.0000	0.0000
20	0.0069	0.0000	0.0018
21	0.0019	0.0000	0.0061
22	0.0027	0.0000	0.0000
23	0.0012	0.0000	0.0000
24	0.0380	0.0000	0.0000
25	0.0063	0.0000	0.0000
26	0.0017	0.0000	0.0000
27	0.0000	0.0000	0.0000
28	0.0000	0.0000	0.0000
29	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000
31	NA	0.0000	NA
Monthly Average (cfs)	0.0057	0.0020	0.0003

Monthly Discharge

Cubic Feet	14666	5369	681
Gallons	109707	40166	5092
Acre-Feet	0.34	0.12	0.02

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging station SW119 is located at state plane 2084723, 751268 on a drainage ditch north of Solar Pond 207A along the PA perimeter road and was installed in support of remediation activities for the Solar Ponds. This performance monitoring station monitors runoff from the east and north sides of the Solar Ponds and Triangle Area. The SW119 drainage area is approximately 7.6 acres. This station collects samples for Pu, Am, uranium isotopes, CLP metals, and TSS using continuous flow-paced composite sampling.

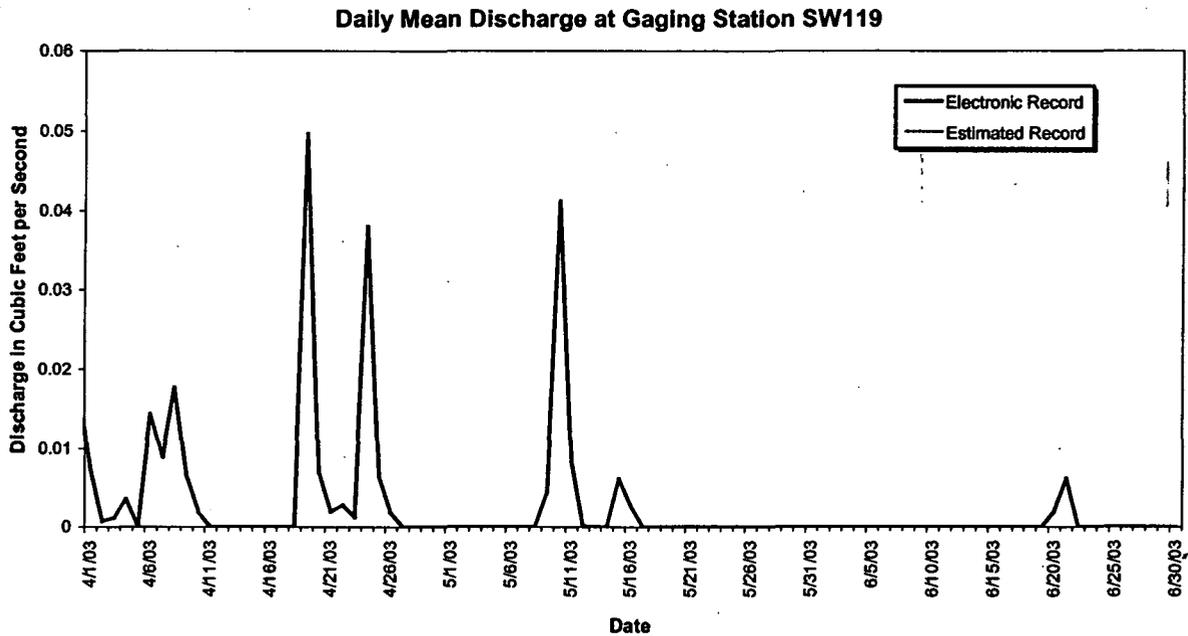


Figure 4-42. Mean Daily Discharge at SW119, Water Year 2003 (Apr, May, Jun 2003).

Table 4-42. Gaging Station SW120: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.0116	0.0042	0.0000
2	0.0083	0.0037	0.0000
3	0.0070	0.0032	0.0000
4	0.0095	0.0027	0.0000
5	0.0061	0.0015	0.0000
6	0.0489	0.0019	0.0004
7	0.0226	0.0022	0.0144
8	0.0509	0.0023	0.0000
9	0.0138	0.0269	0.0000
10	0.0077	0.1494	0.0000
11	0.0065	0.0213	0.0000
12	0.0060	0.0116	0.0000
13	0.0051	0.0097	0.0000
14	0.0044	0.0083	0.0000
15	0.0045	0.0348	0.0000
16	0.0122	0.0168	0.0000
17	0.0137	0.0089	0.0000
18	0.0041	0.0073	0.0054
19	0.1934	0.0071	0.0000
20	0.0123	0.0074	0.0013
21	0.0106	0.0057	0.0064
22	0.0093	0.0033	0.0000
23	0.0169	0.0017	0.0000
24	0.1277	0.0000	0.0000
25	0.0094	0.0000	0.0000
26	0.0068	0.0000	0.0000
27	0.0057	0.0000	0.0000
28	0.0055	0.0000	0.0000
29	0.0054	0.0000	0.0000
30	0.0048	0.0000	0.0000
31	NA	0.0000	NA
Monthly Average (cfs)	0.022	0.011	0.001

Monthly Discharge

Cubic Feet	56246	29535	2414
Gallons	420746	220935	18057
Acre-Feet	1.29	0.68	0.06

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

* Contains data estimated from field observations and electronic record at adjacent or comparable gages.

Gaging Station SW120 is located at state plane 2084681.6 E 751269 N, in the drainage ditch north of the Solar Ponds along the south side of the PA Perimeter Road. This location is a Performance monitoring location in support of D&D activities for the B771/774 area. SW120 also serves as a Source Location monitoring point in support of Source Evaluation efforts for POE SW093. This location collects continuous flow-paced samples that are analyzed for Pu, U, Am, CLP metals, and TSS.

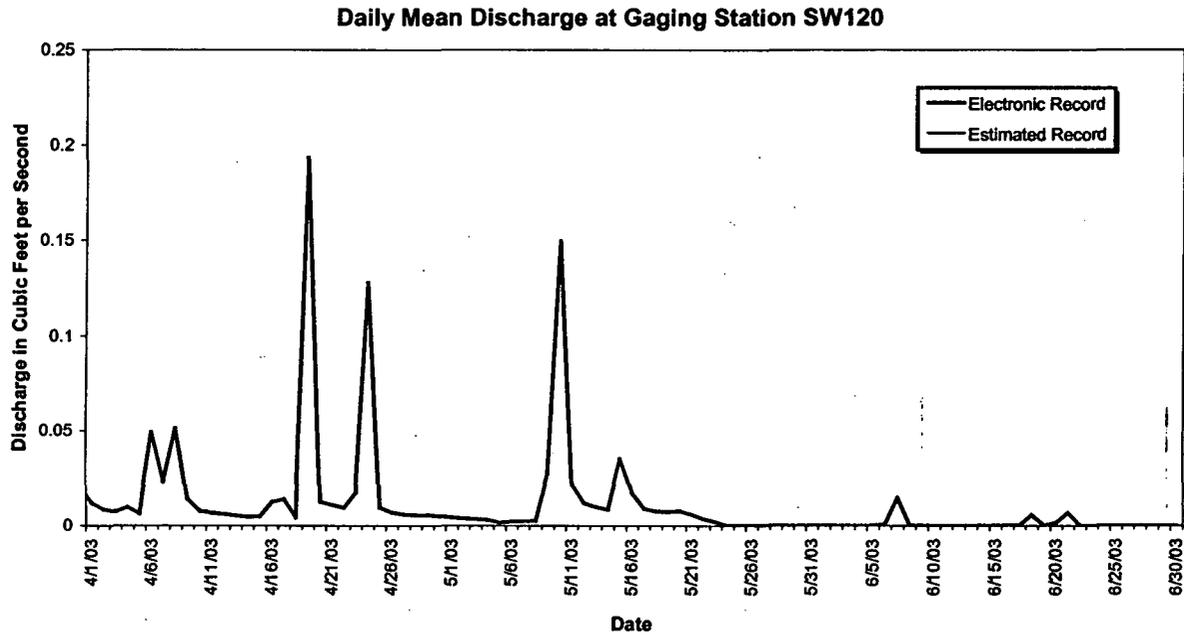


Figure 4-43. Mean Daily Discharge at SW120, Water Year 2003 (Apr, May, Jun 2003).

Table 4-43. Gaging Station SW134: Mean Daily Discharge (cubic feet per second).

Day	April-03	May-03	June-03
1	0.140	0.000	0.000
2	0.069	0.000	0.019
3	0.071	0.000	0.032
4	0.000	0.000	0.000
5	0.000	0.161	0.000
6	0.001	0.000	0.000
7	0.002	0.000	0.000
8	0.018	0.000	0.000
9	0.000	0.000	0.000
10	0.000	0.028	0.000
11	0.000	0.000	0.024
12	0.000	0.297	0.000
13	0.000	0.167	0.000
14	0.173	0.147	0.000
15	0.034	0.000	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.043
18	0.000	0.000	0.000
19	0.061	0.000	0.000
20	0.001	0.060	0.000
21	0.148	0.000	0.000
22	0.254	0.000	0.000
23	0.000	0.000	0.000
24	0.134	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.018
31	NA	0.000	NA
Monthly Average (cfs)	0.037	0.028	0.005

Monthly Discharge

Cubic Feet	95660	74281	11750
Gallons	715585	555658	87899
Acre-Feet	2.20	1.70	0.27

Note: Mean flow values are reported to the nearest 0.001 cfs, values less than 0.0005 cfs are reported as zero.

^a Contains data estimated from field observations and electronic record at adjacent or comparable gages.

WR = No data or unacceptable data due to winter icing conditions.

Buffer Zone Hydrologic monitoring location SW134 is located at state plane 2075942, 750049 on a tributary to Rock Creek at the northeast corner of the gravel pits north of the West Access Road. This station monitors runoff and pumped discharges from the gravel pits. This station collects samples for sediment/sand, Ca, Mg, Na, K, Cl, F, SO₄, HCO₃, and TSS using rising-limb, flow-paced composite sampling.

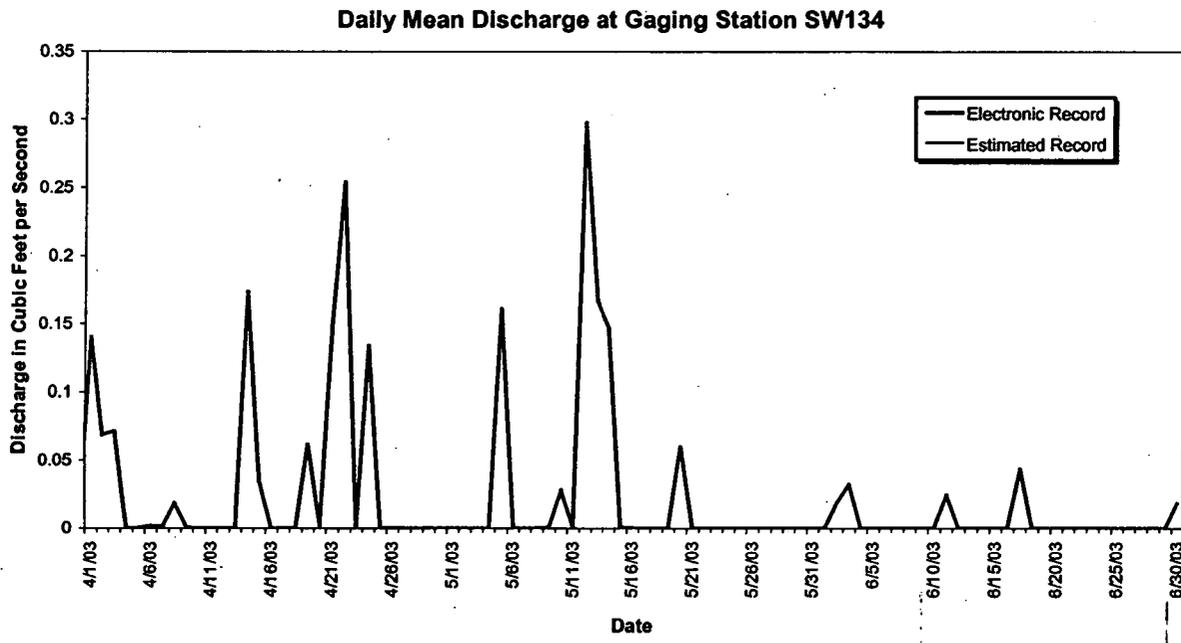


Figure 4-44. Mean Daily Discharge at SW134, Water Year 2003 (Apr, May, Jun 2003).

4.2 WATER QUALITY DATA

Table 4-44. Radionuclides, Water Year 2003 (Apr, May, and Jun 2003).

Location	Sample Dates	Pu-239 - 240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS01	4/3 - 4/9/2003	0.002	0.007	1.030	-105
GS01	4/9 - 4/19/2003	0.005	-0.002	1.236	0
GS01	4/19 - 4/21/2003	0.003	0.007	0.587	55
GS01	4/21 - 4/28/2003	0.015	0.000	0.745	28
GS01	4/28 - 5/15/2003	0.002	0.002	1.734	135
GS01	5/15 - 5/19/2003	0.006	0.013	1.827	83
GS01	5/19 - 5/30/2003	-0.001	-0.003	2.170	-134
GS01	5/30 - 6/19/2003	0.001	0.004	2.020	-227
GS01	6/19/2003 -	E	E	E	E
GS03	4/1 - 4/3/2003	0.001	0.000	2.287	-28
GS03	4/3 - 4/7/2003	-0.002	-0.002	2.436	0
GS03	4/7 - 4/10/2003	0.002	0.002	2.143	-51
GS03	4/10 - 4/19/2003	0.000	0.007	1.114	49
GS03	4/19 - 5/8/2003	0.010	0.005	0.835	127
GS03	5/8 - 5/11/2003	0.005	0.000	1.826	111
GS03	5/11 - 5/15/2003	-0.001	0.006	1.659	27
GS03	5/15 - 5/17/2003	0.005	0.008	2.919	0
GS03	5/17 - 5/20/2003	0.007	0.002	3.266	156

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS03	5/20 - 5/22/2003	0.004	-0.003	3.231	128
GS03	5/22 - 6/12/2003	0.004	-0.003	1.789	-199
GS03	6/12 - 6/24/2003	0.001	0.005	0.853	-253
GS03	6/24 - 6/30/2003	0.000	0.010	0.680	113
GS03	6/30 - 7/7/2003	0.003	0.003	0.612	56
GS08	4/1 - 4/4/2003	0.001	0.000	1.666	A
GS08	4/4 - 4/10/2003	0.008	0.006	1.892	A
GS08	5/8 - 5/11/2003	0.009	0.000	2.005	A
GS08	5/11 - 5/15/2003	0.003	0.000	1.824	A
GS08	5/15 - 5/22/2003	0.005	0.003	1.959	A
GS10	4/7 - 4/17/2003	0.090	0.101	3.911	A
GS10	4/17 - 4/19/2003	0.208	0.396	1.158	A
GS10	4/19 - 4/24/2003	0.062	0.069	2.395	A
GS10	4/24 - 5/10/2003	0.063	0.061	2.761	A
GS10	5/10 - 5/16/2003	0.126	0.093	2.524	A
GS10	5/16 - 6/4/2003	0.023	0.052	7.200	A
GS10	6/4 - 6/9/2003	0.206	0.225	2.744	A
GS10	6/9 - 6/19/2003	0.072	0.146	3.915	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS10	6/19 - 6/24/2003	0.147	0.105	3.150	A
GS10	6/24 - 7/7/2003	0.020	0.040	5.681	A
GS11	4/3 - 4/7/2003	-0.003	0.003	2.643	A
GS11	4/7 - 4/10/2003	-0.004	0.006	3.288	A
GS11	5/15 - 5/17/2003	-0.001	-0.003	3.629	A
GS11	5/17 - 5/22/2003	0.006	0.004	4.055	A
GS21	4/3 - 4/17/2003	0.008	0.007	0.469	A
GS21	4/17 - 4/28/2003	0.011	0.006	0.568	A
GS21	4/28 - 5/20/2003	0.015	0.008	0.593	A
GS21	5/20/2003 - *	C	C	C	A
GS22	4/1 - 4/17/2003	0.007	0.011	1.923	A
GS22	4/17 - 4/21/2003	0.004	0.011	2.013	A
GS22	4/21 - 5/8/2003	0.014	0.017	3.503	A
GS22	5/8 - 5/20/2003	0.011	0.004	1.119	A
GS22	5/20 - 6/25/2003	0.003	0.008	1.414	A
GS22	6/25/2003 -	E	E	E	A
GS27	4/19/03	0.197	0.052	0.662	A
GS27	4/23/03	0.248	0.042	0.791	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS27	5/9/03	0.081	0.004	0.372	A
GS27	5/15/03	1.260	0.334	2.864	A
GS28	4/8 - 4/19/2003	0.034	0.031	1.137	A
GS28	4/19 - 5/10/2003	0.075	0.022	1.150	A
GS28	5/10 - 5/15/2003	0.009	0.002	0.735	A
GS28	5/15/2003 -	E	E	E	A
GS31	5/15 - 5/19/2003	0.022	0.007	1.500	A
GS31	5/19 - 5/30/2003	0.012	0.009	1.706	A
GS31	5/30 - 6/18/2003	0.012	0.003	1.608	A
GS31	6/18/2003 (Valve Test)	0.113	0.021	1.640	A
GS32	4/11/03	0.816	0.327	21.219	157
GS32	4/19/03	1.260	0.684	10.250	82
GS32	5/9/03	0.284	0.192	1.478	81
GS32	5/15/03	4.980	2.680	9.498	-56
GS32	6/17/03	1.860	1.500	2.428	-229
GS38	4/15 - 4/19/2003	0.107	0.045	0.492	A
GS38	4/19 - 4/24/2003	0.145	0.037	0.671	A
GS38	4/24 - 5/10/2003	0.077	0.011	0.395	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS38	5/10 - 6/17/2003	0.345	0.041	0.864	A
GS38	6/17 - 8/8/2003	C	C	C	A
GS39	4/7 - 4/19/2003	0.232	0.106	0.842	A
GS39	4/19 - 5/9/2003	0.082	0.028	0.550	A
GS39	5/9 - 5/10/2003	0.040	0.011	0.276	A
GS39	5/10/2003 - *	C	C	C	A
GS40	4/3 - 4/17/2003	0.068	0.047	3.039	107
GS40	4/17 - 4/28/2003	0.021	0.040	1.693	130
GS40	4/28 - 5/14/2003	0.041	0.047	2.903	28
GS40	5/14 - 6/19/2003	0.874	2.635	3.792	-158
GS40	6/19 - 7/15/2003	C	C	C	24
GS42	4/1 - 4/19/2003	1.360	0.170	0.300	A
GS42	4/19 (5:29) - 4/19/2003 (15:52)	0.462	0.101	0.120	A
GS42	4/19 (15:52) -	0.943	0.118	0.182	A
GS42	4/24/2003 - *	0.811	0.093	0.195	A
GS43	4/6 - 4/8/2003	0.058	-0.002	1.169	A
GS43	4/8 - 4/19/2003	0.027	0.016	0.994	A
GS43	4/19 - 5/9/2003	0.014	0.013	1.593	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS43	5/9 - 6/6/2003	0.018	0.018	1.003	A
GS43	6/6 - 8/7/2003	C	C	C	A
GS44	4/10 - 4/19/2003	0.023	0.015	1.842	131
GS44	4/19 - 4/28/2003	0.022	0.022	2.796	140
GS44	4/28 - 5/10/2003	0.003	0.002	1.855	104
GS44	5/10 - 5/28/2003	0.015	0.017	1.980	120
GS44	5/28 - 6/25/2003	0.041	0.024	4.243	-315
GS44	6/25 - 7/21/2003	C	C	C	522
GS49	4/10 - 4/19/2003	0.015	0.011	0.332	66
GS49	4/19 - 4/24/2003	0.009	0.014	0.474	-79
GS49	4/24 - 5/10/2003	0.007	0.013	0.443	38
GS49	5/10 - 6/20/2003	0.023	0.016	0.590	-340
GS49	6/20/2003 -	E	E	E	E
GS50	3/25 - 4/24/03	0.062	0.127	0.286	A
GS50	4/24/2003 - *	0.080	0.114	0.334	A
GS51	4/9 - 4/19/2003	3.970	0.635	1.111	A
GS51	4/19 - 4/24/2003	8.360	2.110	2.758	A
GS51	4/24 - 5/10/2003	4.080	0.881	2.354	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS51	5/10 - 6/17/2003	1.420	0.346	1.627	A
GS51	6/17/2003 -	E	E	E	A
GS52	4/4 - 4/19/2003	0.935	0.129	2.457	A
GS52	4/19 - 4/24/2003	0.811	0.127	3.778	A
GS52	4/24/2003 - *	0.303	0.040	0.665	A
GS53	4/19 (1:19) - 4/19/2003 (15:46)	0.983	0.124	0.999	A
GS53	4/19 (15:46) - 4/24/2003	0.629	0.117	0.831	A
GS53	4/24 - 6/20/2003	0.784	0.101	3.668	A
GS53	6/20/2003 -	E	E	E	A
GS54	4/6 - 6/17/2003	0.015	0.002	0.095	A
GS54	6/17/2003 -	E	E	E	A
GS55	4/3 - 4/8/2003	0.017	0.010	2.786	A
GS55	4/8 - 4/17/2003	0.001	-0.002	5.264	A
GS55	4/17 - 4/21/2003	0.030	0.007	2.581	A
GS55	4/21 - 4/30/2003	0.066	0.011	4.850	A
GS55	4/30 - 5/11/2003	0.006	0.002	3.350	A
GS55	5/11 - 6/5/2003	0.029	0.012	5.552	A
GS55	6/5 - 7/15/2003	C	C	C	A

Table 4-44: Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239 -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
GS56	4/14 - 4/21/2003	0.001	0.003	1.192	A
GS56	4/21 - 4/28/2003	0.003	0.005	1.400	A
GS56	4/28 - 5/11/2003	0.004	0.000	1.708	A
GS56	5/11/2003 - *	0.001	0.004	3.702	A
GS57	4/3 - 4/8/2003	0.007	0.002	0.490	A
GS57	4/8 - 4/19/2003	0.007	0.002	0.296	A
GS57	4/19 - 5/9/2003	0.006	0.004	0.391	A
GS57	5/9 - 5/15/2003	0.003	0.004	0.338	A
GS57	5/15/2003 -	E	E	E	A
GS59	4/9 - 4/19/2003	0.002	0.004	0.570	A
GS59	4/19 - 4/21/2003	0.003	0.000	0.344	A
GS59	4/21 - 4/28/2003	0.001	0.002	0.440	A
GS59	4/28 - 5/12/2003	0.001	-0.004	0.497	A
GS59	5/12 - 5/28/2003	-0.003	0.003	0.688	A
GS59	5/28/2003 -	E	E	E	A
SW021	5/7 - 6/9/2003	0.014	0.043	3.640	A
SW021	6/9/2003 -	E	E	E	A
SW022	4/9 - 4/19/2003	0.100	0.023	0.920	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
SW022	4/19 - 4/28/2003	0.038	0.015	0.869	A
SW022	4/28 - 5/10/2003	0.032	0.008	0.507	A
SW022	5/10 - 6/17/2003	0.152	0.063	1.290	A
SW022	6/17/2003 -	C	C	C	A
SW027	4/9 - 4/19/2003	0.132	0.012	1.338	A
SW027	4/19 - 5/5/2003	0.118	0.017	2.020	A
SW027	5/5 - 5/11/2003	0.188	0.023	1.615	A
SW027	5/11/2003 -	E	E	E	A
SW036	4/1 - 4/3/2003	0.000	0.004	35.264	A
SW036	4/3 - 4/7/2003	0.000	0.001	18.810	A
SW036	4/7 - 4/14/2003	0.000	0.002	33.752	A
SW036	4/14 - 4/19/2003	0.001	0.000	25.951	A
SW036	4/19 - 4/22/2003	0.002	0.001	36.477	A
SW036	4/22 - 4/28/2003	0.003	0.000	30.430	A
SW036	4/28 - 5/10/2003	0.003	0.000	39.620	A
SW036	5/10 - 5/20/2003	0.003	0.003	35.036	A
SW036	5/20 - 7/18/2003	-0.002	0.001	29.951	A
SW055	4/3 - 4/7/2003	1.700	0.210	1.015	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
SW055	4/7 - 4/8/2003	1.700	0.214	1.128	A
SW055	4/8 - 4/19/2003	2.160	0.288	1.288	A
SW055	4/19 - 4/24/2003	1.970	0.266	2.135	A
SW055	4/24 - 5/10/2003	2.100	0.307	2.414	A
SW055	5/10 - 5/15/2003	2.130	0.289	2.053	A
SW055	5/15 - 6/5/2003	34.000	3.430	3.574	A
SW055	6/5/2003 -	E	E	E	A
SW091	4/6/03	0.010	0.055	1.937	A
SW091	4/19/03	0.007	0.003	1.946	A
SW091	4/23/03	0.005	0.017	2.538	A
SW091	5/15/03	0.043	0.028	2.952	A
SW093	4/7 - 4/17/2003	0.036	0.020	3.596	A
SW093	4/17 - 4/19/2003	0.071	0.048	2.073	A
SW093	4/19 - 4/24/2003	0.044	0.030	3.105	A
SW093	4/24 - 5/10/2003	0.020	0.022	2.797	A
SW093	5/10 - 5/16/2003	0.051	0.012	3.259	A
SW093	5/16 - 6/11/2003	0.004	-0.001	2.992	A
SW093	6/11 - 6/17/2003	0.001	0.005	1.166	A

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239 - 240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
SW093	6/17 - 6/24/2003	0.010	0.010	1.120	A
SW093	6/24 - 6/30/2003	0.004	0.002	1.091	A
SW093	6/30 - 7/11/2003	0.001	0.001	1.093	A
SW119	4/3 - 4/8/2003	0.012	0.016	3.356	A
SW119	4/8 - 4/19/2003	0.044	0.051	7.940	A
SW119	4/19 - 5/9/2003	0.024	0.062	10.628	A
SW119	5/9 - 5/15/2003	0.050	0.062	7.682	A
SW119	5/15/2003 -	E	E	E	A
SW120	4/3 - 4/8/2003	0.041	0.016	5.783	28
SW120	4/8 - 4/17/2003	0.031	0.010	10.153	211
SW120	4/17 - 4/19/2003	0.407	0.197	3.074	147
SW120	4/19 - 4/24/2003	0.262	0.082	4.440	-45
SW120	4/24 - 5/10/2003	0.071	0.034	6.310	203
SW120	5/10 - 6/6/2003	0.234	0.105	10.338	-108
SW120	6/6/2003 -	E	E	E	E
995POE	3/31 - 4/23/03	0.000	0.002	1.404	-17
995POE	4/23 - 5/13/2003	0.000	0.006	1.162	28
995POE	5/13 - 6/4/2003	0.000	0.004	0.936	-224

Table 4-44. Radionuclides, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Location	Sample Dates	Pu-239, -240 (pCi/L)	Am-241 (pCi/L)	Total Uranium (pCi/L)	Tritium (pCi/L)
995POE	6/4 - 6/26/2003	0.001	0.006	0.630	28
995POE	6/26 - 7/22/2003	C	C	C	C

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-45. POE Metals, Water Year 2003 (Apr, May, and Jun 2003).

Location	Sample Dates	Ba ug/L	Dissolved Cd ug/L	Cr ug/L	Dissolved Ag ug/L
GS10	4/7 - 4/17/2003	0.080	0.150	3.80	ND
GS10	4/17 - 4/19/2003	0.100	ND	8.30	ND
GS10	4/19 - 4/24/2003	0.170	0.110	5.70	ND
GS10	4/24 - 5/10/2003	0.170	ND	3.30	ND
GS10	5/10 - 5/16/2003	0.400	ND	9.90	ND
GS10	5/16 - 6/4/2003	ND	ND	0.72	ND
GS10	6/4 - 6/9/2003	0.260	ND	3.90	ND
ND	6/9 - 6/19/2003	0.050	ND	3.60	ND
ND	6/19 - 6/24/2003	0.510	ND	9.00	ND
GS10	6/24 - 7/7/2003	ND	ND	0.58	ND
SW027	4/9 - 4/19/2003	ND	ND	1.9	ND
SW027	4/19 - 5/5/2003	0.09	ND	1.5	ND
SW027	5/5 - 5/11/2003	0.1	ND	1.2	ND
SW027	5/11/2003 -	E	E	E	E
SW093	4/7 - 4/17/2003	0.08	ND	4.2	ND
SW093	4/17 - 4/19/2003	0.6	0.14	14.4	ND
SW093	4/19 - 4/24/2003	0.17	0.2	4.7	ND
SW093	4/24 - 5/10/2003	0.24	0.14	4.1	ND
SW093	5/10 - 5/16/2003	0.34	0.115	7.4	Results Pending
SW093	5/16 - 6/11/2003	0.09	ND	2.1	ND
SW093	6/11 - 6/17/2003	0.18	ND	4	ND
SW093	6/17 - 6/24/2003	0.39	ND	5	ND
SW093	6/24 - 6/30/2003	0.07	ND	2.3	ND
SW093	6/30 - 7/11/2003	ND	ND	1.4	ND

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 (Apr, May, Jun 2003).

Analyte (ug/L)	GS22	GS22	GS22	GS22	GS22
	4/1 - 4/17/2003	4/17 - 4/21/2003	4/21 - 5/8/2003	5/8 - 5/20/2003	5/20 - 6/25/2003
ALUMINIUM	7980	3560	7730	3150	1030
ANTIMONY	1.1	0.62	1.2	1.2	1.2
ARSENIC	3.1	2.2	3.4	2.5	1.6
BARIUM	183	68.3	178	97.1	124
BERYLLIUM	0.48	0.22	0.36	ND	0.19
CADMIUM	0.65	0.2	0.65	0.15	ND
CALCIUM	61300	23500	67400	37300	64300
CHROMIUM	14.8	6.8	13.1	6.3	2.4
COBALT	2.9	1.1	2.4	1.1	0.49
COPPER	63.7	21.4	53.4	19	23.3
IRON	8690	3630	7490	3390	1080
LEAD	22.5	8.9	15.3	9.3	3.1
LITHIUM	20.1	6.4	13	6.7	7.7
MAGNESIUM	9860	3830	11200	5780	10000
MANGANESE	143	59.9	93.9	66	22.3
MERCURY	0.38	ND	ND	ND	ND
MOLYBDENUM	1.1	ND	1.3	0.93	0.84
NICKEL	8.7	3.8	7.4	4.1	2.07
POTASSIUM	4340	1830	3190	1930	1970
SELENIUM	ND	ND	1.3	ND	ND
SILVER	0.24	0.59	0.44	ND	ND
SODIUM	200000	28700	31400	20900	33200
STRONTIUM	319	114	328	182	325
THALLIUM	ND	ND	1.4	ND	ND
TIN	ND	1.2	ND	ND	ND
VANADIUM	22.3	9.5	19.6	8	3.2
ZINC	615	230	569	278	179

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/L)	GS22	GS28	GS28	GS28	GS28
	6/25/2003	4/8 - 4/19/2003	4/19 - 5/10/2003	5/10 - 5/15/2003	5/15/2003
ALUMINUM	E	6180	5930	1310	E
ANTIMONY	E	1.4	1	0.87	E
ARSENIC	E	3.3	1.7	0.86	E
BARIUM	E	61.2	53.8	25.6	E
BERYLLIUM	E	0.37	0.24	0.08	E
CADMIUM	E	0.1	0.12	ND	E
CALCIUM	E	17700	15900	10100	E
CHROMIUM	E	6.1	6.5	1.9	E
COBALT	E	1.4	1.2	0.35	E
COPPER	E	12.3	11.3	6	E
IRON	E	4260	4370	913	E
LEAD	E	7.4	6.9	1.6	E
LITHIUM	E	6.5	5.9	2.3	E
MAGNESIUM	E	2510	2180	1180	E
MANGANESE	E	58.7	59.6	17.9	E
MERCURY	E	ND	ND	ND	E
MOLYBDENUM	E	1	1.1	0.94	E
NICKEL	E	4.1	4.6	1.5	E
POTASSIUM	E	2800	2270	1540	E
SELENIUM	E	ND	1.2	ND	E
SILVER	E	ND	ND	ND	E
SODIUM	E	23700	13200	11100	E
STRONTIUM	E	86.9	69.4	52	E
THALLIUM	E	ND	ND	ND	E
TIN	E	ND	ND	ND	E
VANADIUM	E	13.5	12.9	3.8	E
ZINC	E	108	110	50.1	E

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/L)	GS32	GS32	GS32	GS32	GS32
	4/11/03	4/19/03	5/9/03	5/15/03	6/17/03
ALUMINUM	3740	12100	4960	47600	20500
ANTIMONY	6.8	10.9	7.1	19.6	19
ARSENIC	1.8	4.9	1.7	16.7	9
BARIIUM	221	199	65.1	437	205
BERYLLIUM	0.23	0.69	0.28	2.4	1.2
CADMIUM	0.52	0.79	0.24	3.3	1.5
CALCIUM	91400	55600	21900	92800	45400
CHROMIUM	6.4	17.5	6.3	62.6	28.1
COBALT	1.9	4.3	1.5	16.9	7.5
COPPER	19.7	34.8	17	104	53.6
IRON	5430	14000	4310	48700	21400
LEAD	8.1	23.3	7.1	74.5	36.4
LITHIUM	18.1	31.2	11.6	64.2	31.3
MAGNESIUM	19000	11000	3540	16900	7560
MANGANESE	110	262	100	926	412
MERCURY	ND	ND	ND	0.11	ND
MOLYBDENUM	2.9	2.1	1.6	4	4.3
NICKEL	6.2	14.2	5.4	44.6	21.7
POTASSIUM	26900	17600	6760	18600	12700
SELENIUM	1.4	1.5	ND	1.1	2.2
SILVER	ND	ND	ND	0.49	ND
SODIUM	297000	209000	80400	83400	99200
STRONTIUM	512	299	121	317	201
THALLIUM	ND	ND	ND	ND	ND
TIN	ND	1.3	1.5	ND	1.8
VANADIUM	11.4	32.1	12.4	113	50.8
ZINC	2480	1170	340	1140	850

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/L)	GS38	GS38	GS38	GS38	GS38
	4/15-4/19/2003	4/19-4/24/2003	4/24-5/10/2003	5/10-6/17/2003	6/17-8/8/2003
ALUMINUM	A	A	A	15600	C
ANTIMONY	A	A	A	2.2	C
ARSENIC	A	A	A	6.5	C
BARIIUM	A	A	A	129	C
BERYLLIUM	A	A	A	0.97	C
CADMIUM	A	A	A	0.37	C
CALCIUM	A	A	A	14200	C
CHROMIUM	A	A	A	20.7	C
COBALT	A	A	A	4.7	C
COPPER	A	A	A	31.2	C
IRON	A	A	A	15000	C
LEAD	A	A	A	27	C
LITHIUM	A	A	A	18	C
MAGNESIUM	A	A	A	5270	C
MANGANESE	A	A	A	260	C
MERCURY	A	A	A	ND	C
MOLYBDENUM	A	A	A	2.2	C
NICKEL	A	A	A	14.5	C
POTASSIUM	A	A	A	5000	C
SELENIUM	A	A	A	1.8	C
SILVER	A	A	A	ND	C
SODIUM	A	A	A	26300	C
STRONTIUM	A	A	A	74	C
THALLIUM	A	A	A	ND	C
TIN	A	A	A	ND	C
VANADIUM	A	A	A	32.3	C
ZINC	A	A	A	302	C

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	GS40	GS40	GS40	GS40	GS40
	4/3 - 4/17/2003	4/17 - 4/28/2003	4/28 - 5/14/2003	5/14 - 6/19/2003	6/19 - 7/15/2003
ALUMINUM	5820	2900	4960	22200	C
ANTIMONY	21.6	11.2	16	107	C
ARSENIC	3.8	1	6	21.65	C
BARIIUM	268	117	244	770	C
BERYLLIUM	0.35	0.06	0.26	1.3	C
CADMIUM	1.2	0.4	1.4	8.9	C
CALCIUM	84400	41700	77000	155500	C
CHROMIUM	7.6	4.4	6.6	36.15	C
COBALT	1.9	0.81	1.6	9.7	C
COPPER	14.1	7.5	17.2	87.15	C
IRON	7780	3360	9610	55850	C
LEAD	10.2	3.5	9.4	57.55	C
LITHIUM	20.1	7.2	12.3	36.25	C
MAGNESIUM	19900	9560	19700	37700	C
MANGANESE	417	179	502	2775	C
MERCURY	ND	ND	ND	ND	C
MOLYBDENUM	1.7	1.1	1.6	4.65	C
NICKEL	5.5	3.1	4.5	24.75	C
POTASSIUM	28200	4190	5150	10750	C
SELENIUM	ND	1.1	ND	ND	C
SILVER	ND	ND	ND	ND	C
SODIUM	347000	77800	121000	164500	C
STRONTIUM	655	299	598	1085	C
THALLIUM	ND	ND	ND	ND	C
TIN	ND	ND	ND	2.5	C
VANADIUM	14.7	7	12.6	62.85	C
ZINC	413	191	476	2105	C

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/L)	GS43	GS43	GS43	GS43	GS43
	4/6-4/8/2003	4/8-4/19/2003	4/19-5/9/2003	5/9-6/6/2003	6/6-8/7/2003
ALUMINIUM	6590	6640	9790	8700	C
ANTIMONY	2.1	1.6	1.3	3.1	C
ARSENIC	2.6	3.5	3.2	3.9	C
BARIUM	64.4	53.5	81.4	89.1	C
BERYLLIUM	0.27	0.39	0.33	ND	C
CADMIUM	0.27	ND	ND	ND	C
CALCIUM	24200	16800	33600	26200	C
CHROMIUM	7.1	7.2	9.5	10.3	C
COBALT	1.7	1.7	1.9	2.4	C
COPPER	8.8	9	10.1	13	C
IRON	5220	5130	7090	7240	C
LEAD	6.6	6.8	6.5	10.1	C
LITHIUM	15.8	13.7	13	11.3	C
MAGNESIUM	3030	2550	5840	3400	C
MANGANESE	73.3	75	86.1	125	C
MERCURY	0.12	ND	ND	ND	C
MOLYBDENUM	1.5	0.92	1.4	1.2	C
NICKEL	5.7	4.9	7.6	7.8	C
POTASSIUM	41300	11000	9750	7710	C
SELENIUM	1.3	ND	1.8	ND	C
SILVER	ND	ND	ND	ND	C
SODIUM	29200	18400	22000	16700	C
STRONTIUM	188	88.3	181	108	C
THALLIUM	ND	ND	ND	ND	C
TIN	ND	ND	ND	ND	C
VANADIUM	14.9	15.4	20.4	20.4	C
ZINC	82.4	80.6	80.5	153	C

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	GS44	GS44	GS44	GS44	GS44
	4/10 - 4/19/2003	4/19 - 4/28/2003	4/28 - 5/10/2003	5/10 - 5/28/2003	5/28 - 6/25/2003
ALUMINUM	4250	10850	6160	12300	C
ANTIMONY	1.1	1.4	1.5	3.9	C
ARSENIC	1.6	2.85	2.2	4.9	C
BARIUM	85.3	146	107	221	C
BERYLLIUM	0.23	0.4	0.32	ND	C
CADMIUM	ND	ND	ND	ND	C
CALCIUM	40500	61350	47700	80200	C
CHROMIUM	4.5	12.25	6.6	14.8	C
COBALT	0.98	2.2	1.3	3.4	C
COPPER	7.7	14.15	10.1	21	C
IRON	3190	8200	4810	10900	C
LEAD	3.3	6.8	4.6	11.5	C
LITHIUM	11.1	21.5	14.8	34.7	C
MAGNESIUM	8840	12950	10400	18300	C
MANGANESE	47.6	106.5	66.9	180	C
MERCURY	ND	ND	ND	ND	C
MOLYBDENUM	1.2	1.55	1	1.7	C
NICKEL	3.4	8.45	5.1	11.8	C
POTASSIUM	4610	7155	4940	8440	C
SELENIUM	1.7	3.7	ND	3.1	C
SILVER	ND	ND	ND	ND	C
SODIUM	52700	55300	47400	57200	C
STRONTIUM	244	348	282	508	C
THALLIUM	ND	ND	ND	ND	C
TIN	ND	ND	ND	ND	C
VANADIUM	9.9	23.6	13.5	28.4	C
ZINC	47.1	141.5	93.7	216	C

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	GS44	GS49	GS49	GS49	GS49
	6/25-7/21/2003	4/10-4/19/2003	4/19-4/24/2003	4/24-5/10/2003	5/10-6/20/2003
ALUMINUM	C	4750	4120	3030	15800
ANTIMONY	C	2.1	2.1	1.9	1.3
ARSENIC	C	2.35	0.91	1.6	4.7
BARIUM	C	38.05	46.2	47.9	101
BERYLLIUM	C	0.265	0.11	0.18	0.94
CADMIUM	C	ND	ND	ND	0.11
CALCIUM	C	9260	16400	18900	9780
CHROMIUM	C	4.7	4.6	4.7	17.6
COBALT	C	1.04	0.7	0.62	3.6
COPPER	C	11.95	11.8	11.5	38.4
IRON	C	3440	2930	2330	11400
LEAD	C	3.2	1.9	3.5	13.6
LITHIUM	C	3.7	3.6	3.1	12
MAGNESIUM	C	1880	2980	3210	3370
MANGANESE	C	44.55	33	33.5	170
MERCURY	C	ND	ND	ND	ND
MOLYBDENUM	C	0.475	0.6	0.68	0.96
NICKEL	C	3.55	3.5	2.8	12.8
POTASSIUM	C	2395	2210	2180	4040
SELENIUM	C	1.25	2	ND	1.7
SILVER	C	ND	ND	ND	ND
SODIUM	C	13650	14500	14600	10700
STRONTIUM	C	42.55	75.5	85.7	51.6
THALLIUM	C	ND	ND	ND	ND
TIN	C	ND	ND	ND	ND
VANADIUM	C	9.15	7.8	6.5	28.5
ZINC	C	117.5	179	169	241

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	GS49	GS50	GS50	GS55	GS55
	6/20/2003	3/25-4/24/03	4/24/2003	4/3-4/8/2003	4/3-4/17/2003
ALUMINUM	E	3210	3380	1950	1030
ANTIMONY	E	0.87	1.1	1.1	1.1
ARSENIC	E	1.4	2.7	ND	1
BARIUM	E	31.4	40.3	92.3	161
BERYLLIUM	E	0.18	0.4	0.12	0.19
CADMIUM	E	ND	0.26	0.21	ND
CALCIUM	E	11100	13400	39100	79100
CHROMIUM	E	3.2	4.1	2.6	1.1
COBALT	E	0.65	0.77	0.68	0.42
COPPER	E	5.1	6.5	5.5	3.1
IRON	E	2270	2340	1530	957
LEAD	E	3.6	4.5	2	1.4
LITHIUM	E	6.7	6.4	7.4	12
MAGNESIUM	E	1380	1560	8860	20000
MANGANESE	E	24.2	32.7	57.8	91.3
MERCURY	E	ND	ND	0.14	ND
MOLYBDENUM	E	0.47	1.4	1.5	1.7
NICKEL	E	2.7	2.8	2.4	1.3
POTASSIUM	E	3360	4260	2460	3000
SELENIUM	E	ND	ND	1.4	1.6
SILVER	E	ND	ND	ND	ND
SODIUM	E	8490	11700	89300	70100
STRONTIUM	E	37.8	48.5	264	589
THALLIUM	E	ND	ND	ND	ND
TIN	E	ND	ND	ND	ND
VANADIUM	E	6.9	7	5	2.9
ZINC	E	20.6	26.1	68.8	40.7

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/L)	GS55	GS55	GS55	GS55	GS55
	4/17 - 4/21/2003	4/21 - 4/30/2003	4/30 - 5/11/2003	5/11 - 6/5/2003	6/5 - 7/15/2003
ALUMINUM	3010	2070	630	2120	C
ANTIMONY	1.1	0.86	ND	0.67	C
ARSENIC	0.96	0.94	ND	1.5	C
BARIUM	80.9	121	103	198	C
BERYLLIUM	0.24	0.15	0.09	0.14	C
CADMIUM	ND	ND	0.11	ND	C
CALCIUM	32600	60100	58700	103000	C
CHROMIUM	3.6	2.4	1.9	2.7	C
COBALT	0.63	0.61	0.3	0.77	C
COPPER	7	5.3	3.2	4.8	C
IRON	2510	1520	592	2010	C
LEAD	3.4	2.3	1.2	2.2	C
LITHIUM	7.3	9.9	8.7	15.8	C
MAGNESIUM	7750	14400	14000	25300	C
MANGANESE	63.6	82.7	56.5	114	C
MERCURY	ND	ND	ND	ND	C
MOLYBDENUM	0.96	1.5	1.4	1.9	C
NICKEL	2.9	2.2	1.3	2.3	C
POTASSIUM	2140	2730	2060	4210	C
SELENIUM	ND	1.8	ND	2.8	C
SILVER	ND	ND	ND	ND	C
SODIUM	39600	58800	48600	64600	C
STRONTIUM	227	418	412	761	C
THALLIUM	ND	ND	ND	2.1	C
TIN	ND	ND	ND	ND	C
VANADIUM	7.4	4.8	1.7	4.6	C
ZINC	65.2	50.7	32.8	36.5	C

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	GS56	GS56	GS56	GS56	GS57
	4/14 - 4/21/2003	4/21 - 4/28/2003	4/28 - 5/11/2003	5/11/2003 - *	4/3 - 4/8/2003
ALUMINUM	2950	2270	1700	589	2990
ANTIMONY	1	ND	0.59	1.2	0.95
ARSENIC	1.3	ND	ND	ND	2.2
BARIUM	105	104	114	134	68.3
BERYLLIUM	0.18	0.03	0.11	ND	0.16
CADMIUM	ND	ND	ND	ND	0.71
CALCIUM	34100	36300	42600	51000	25100
CHROMIUM	2.9	2.4	1.9	0.8	4
COBALT	0.5	ND	0.42	ND	0.83
COPPER	5.4	4.7	3.7	2.4	8.3
IRON	1810	1360	1070	358	2450
LEAD	2.4	1.9	1.9	0.62	2.7
LITHIUM	7.7	7.8	8.6	11	9.2
MAGNESIUM	5840	6400	7240	8600	3640
MANGANESE	17.7	11.7	16.4	5.3	66
MERCURY	ND	ND	ND	ND	0.16
MOLYBDENUM	1.1	1.4	1.2	1	1.4
NICKEL	3.2	3.2	2.6	1.8	3.8
POTASSIUM	3250	3460	2600	2130	2890
SELENIUM	1.1	2.1	ND	ND	ND
SILVER	ND	ND	ND	ND	ND
SODIUM	10800	12700	13700	16400	249000
STRONTIUM	179	190	224	284	135
THALLIUM	ND	ND	ND	ND	ND
TIN	ND	ND	ND	ND	ND
VANADIUM	7.3	5.8	4.4	2.3	6.9
ZINC	16.1	15.1	14.3	6.2	429

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/L)	GS57	GS57	GS57	GS57	GS59
	4/8 - 4/19/2003	4/19 - 5/9/2003	5/9 - 5/15/2003	5/15/2003	4/9 - 4/19/2003
ALUMINUM	2980	3040	2070	E	962.5
ANTIMONY	1.1	0.98	1.1	E	ND
ARSENIC	2.3	2.1	2.1	E	ND
BARIUM	31.3	34.9	19.6	E	67.4
BERYLLIUM	0.26	0.18	0.13	E	0.155
CADMIUM	ND	0.14	ND	E	ND
CALCIUM	10300	12600	6910	E	27500
CHROMIUM	3.4	4	3	E	0.96
COBALT	0.66	0.75	0.51	E	0.305
COPPER	7.3	8.3	7.6	E	2.25
IRON	2200	2360	1500	E	649
LEAD	3.4	3.9	1.9	E	0.875
LITHIUM	4.5	4.6	3.6	E	5.4
MAGNESIUM	1700	1980	1120	E	6460
MANGANESE	43	38	20.8	E	12.4
MERCURY	ND	ND	ND	E	ND
MOLYBDENUM	1.1	1.4	1.1	E	0.47
NICKEL	2.6	3.3	2.4	E	1.4
POTASSIUM	2240	2290	1450	E	2365
SELENIUM	ND	ND	ND	E	ND
SILVER	ND	ND	ND	E	ND
SODIUM	61100	48400	29300	E	27150
STRONTIUM	51.4	59.2	33.7	E	164.5
THALLIUM	ND	ND	ND	E	ND
TIN	ND	ND	ND	E	ND
VANADIUM	6.3	6.6	4.8	E	2.3
ZINC	153	193	129	E	4.7

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	GS59	GS59	GS59	GS59	GS59
	4/19 - 4/21/2003	4/21 - 4/28/2003	4/28 - 5/12/2003	5/12 - 5/28/2003	5/28/2003
ALUMINUM	1230	1430	636	149	E
ANTIMONY	ND	ND	1.8	0.8	E
ARSENIC	1.2	ND	ND	ND	E
BARIUM	51.7	58.2	76.5	84.6	E
BERYLLIUM	0.14	ND	0.07	ND	E
CADMIUM	ND	ND	ND	ND	E
CALCIUM	17300	20400	31000	33400	E
CHROMIUM	1.3	1.6	3.5	0.34	E
COBALT	0.25	0.3	ND	ND	E
COPPER	3.2	3.3	2.1	1.1	E
IRON	873	1060	494	170	E
LEAD	1.1	ND	0.95	ND	E
LITHIUM	3.7	4.3	5.9	6.4	E
MAGNESIUM	4290	5000	7260	7800	E
MANGANESE	15	23.2	17.4	8.5	E
MERCURY	ND	ND	ND	ND	E
MOLYBDENUM	ND	0.54	0.77	0.49	E
NICKEL	2.1	2.2	1.5	1.1	E
POTASSIUM	2560	2580	1990	1620	E
SELENIUM	ND	ND	ND	ND	E
SILVER	ND	ND	ND	ND	E
SODIUM	17400	19400	23700	22900	E
STRONTIUM	108	124	188	213	E
THALLIUM	ND	ND	ND	ND	E
TIN	1.5	ND	ND	ND	E
VANADIUM	2.6	2.9	1.6	0.84	E
ZINC	8.2	10.5	6.3	11	E

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (Ug/L)	SW021	SW021	SW036	SW036	SW036
	5/7 - 6/9/2003	6/9/2003	4/1 - 4/3/2003	4/3 - 4/7/2003	4/7 - 4/14/2003
ALUMINUM	1630	E	32.7	38.5	39.4
ANTIMONY	0.81	E	1.7	1	0.73
ARSENIC	1.5	E	ND	ND	ND
BARIUM	107	E	211	207	187
BERYLLIUM	0.14	E	0.18	0.105	ND
CADMIUM	ND	E	ND	ND	ND
CALCIUM	48700	E	157000	170000	150000
CHROMIUM	2.1	E	0.5	1.65	0.21
COBALT	0.44	E	ND	0.235	ND
COPPER	5.1	E	2.2	2.25	3.1
IRON	1190	E	38.1	56.65	48.2
LEAD	1.1	E	ND	ND	ND
LITHIUM	6.7	E	11.1	11.35	11.3
MAGNESIUM	9660	E	32900	36300	30000
MANGANESE	36.1	E	3.2	3.8	4.2
MERCURY	ND	E	ND	0.135	ND
MOLYBDENUM	1.3	E	4.4	3.85	4
NICKEL	2.3	E	1	1.6	1.8
POTASSIUM	3340	E	3830	3480	3320
SELENIUM	ND	E	1.7	1.045	1.1
SILVER	ND	E	ND	ND	ND
SODIUM	47600	E	73100	77550	75500
STRONTIUM	305	E	866	896	786
THALLIUM	ND	E	ND	ND	ND
TIN	ND	E	ND	ND	ND
VANADIUM	4.4	E	0.87	0.74	0.58
ZINC	31	E	7.5	10	6.2

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	SW036	SW036	SW036	SW036	SW036
	4/14 - 4/19/2003	4/19 - 4/22/2003	4/22 - 4/28/2003	4/28 - 5/10/2003	5/10 - 5/20/2003
ALUMINUM	137	106	107	117	306
ANTIMONY	0.92	0.845	0.7	ND	1.1
ARSENIC	ND	ND	ND	ND	1.25
BARIUM	177	169.5	160	181	171
BERYLLIUM	0.18	0.21	ND	0.11	ND
CADMIUM	ND	ND	ND	ND	ND
CALCIUM	149000	135000	125000	155000	122000
CHROMIUM	ND	0.395	0.38	0.36	0.495
COBALT	0.23	0.265	0.36	ND	ND
COPPER	2.5	2.85	3.1	2.8	2.2
IRON	122	106.5	105	113	261
LEAD	ND	ND	ND	ND	0.73
LITHIUM	10.6	12.65	11.3	14.4	12
MAGNESIUM	31100	28400	28100	34100	29650
MANGANESE	11.8	8.85	8.9	8	33.95
MERCURY	ND	ND	ND	ND	ND
MOLYBDENUM	3.3	3.8	3.7	3.6	3.35
NICKEL	1.1	1.5	1.5	1.7	1.95
POTASSIUM	3370	3170	3110	3330	2780
SELENIUM	ND	ND	ND	ND	ND
SILVER	ND	ND	ND	ND	ND
SODIUM	71900	70600	71500	87300	66850
STRONTIUM	775	722.5	703	847	769.5
THALLIUM	ND	ND	ND	ND	ND
TIN	ND	ND	ND	ND	ND
VANADIUM	0.98	1.05	0.84	0.92	1.3
ZINC	3.5	5.3	8.4	9.9	6.9

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/L)	SW036	SW091	SW091	SW091	SW091
	5/20-7/18/2003	4/6/03	4/19/03	4/23/03	5/15/03
ALUMINUM	36.9	273	465	429	1060
ANTIMONY	ND	ND	ND	ND	0.9
ARSENIC	1.3	1.1	2	1.6	1.8
BARIUM	132	109	125	128	164
BERYLLIUM	ND	0.07	0.17	ND	0.1
CADMIUM	ND	0.23	0.12	ND	ND
CALCIUM	91300	47300	51700	55400	64900
CHROMIUM	ND	1.8	2.2	0.81	1.6
COBALT	ND	0.29	0.32	0.19	0.56
COPPER	2.1	3.6	2.8	3	3.3
IRON	52.9	218	348	317	714
LEAD	ND	ND	0.83	ND	1.1
LITHIUM	9.4	19.7	25.1	24.8	24
MAGNESIUM	35100	9830	11100	11300	13900
MANGANESE	8.5	8	18.3	10.4	50.6
MERCURY	ND	0.15	ND	ND	ND
MOLYBDENUM	3.3	2	1.6	2.3	2.3
NICKEL	ND	2.6	3.5	2.6	3.3
POTASSIUM	2970	6490	7850	6470	7710
SELENIUM	ND	1.6	1.1	2.2	ND
SILVER	0.53	ND	ND	ND	ND
SODIUM	82300	25200	29900	29300	33600
STRONTIUM	785	281	318	322	405
THALLIUM	ND	ND	ND	ND	ND
TIN	ND	ND	ND	ND	ND
VANADIUM	0.62	1.3	2.1	1.8	3.1
ZINC	2.1	12.4	10	7.7	11.6

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	SW119	SW119	SW119	SW119	SW119
	4/3 - 4/8/2003	4/8 - 4/19/2003	4/19 - 5/9/2003	5/9 - 5/15/2003	5/15/2003
ALUMINUM	985	3660	2870	4140	E
ANTIMONY	ND	0.93	ND	1.4	E
ARSENIC	ND	2.7	ND	2.1	E
BARIIUM	246	152	165	126	E
BERYLLIUM	0.13	0.34	0.13	0.23	E
CADMIUM	0.34	0.35	0.8	0.86	E
CALCIUM	80200	57000	67600	48800	E
CHROMIUM	2.2	3.6	3	4	E
COBALT	0.72	1.7	1.3	1.3	E
COPPER	4.7	6.5	7.9	8.1	E
IRON	864	2550	1980	2630	E
LEAD	ND	2	1.2	3.2	E
LITHIUM	57.6	64.5	76.5	55.7	E
MAGNESIUM	19700	16100	17900	13100	E
MANGANESE	30	29.7	22.3	29.1	E
MERCURY	0.17	ND	ND	ND	E
MOLYBDENUM	1.1	1.1	1.5	1.3	E
NICKEL	2.1	4.5	4.7	4.9	E
POTASSIUM	6340	7300	8920	8080	E
SELENIUM	ND	1.6	1.1	ND	E
SILVER	ND	ND	ND	ND	E
SODIUM	790000	210000	210000	161000	E
STRONTIUM	712	500	562	409	E
THALLIUM	ND	ND	ND	ND	E
TIN	ND	ND	ND	ND	E
VANADIUM	2.8	9.4	7.1	9.1	E
ZINC	19.5	16	18	21.6	E

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (µg/L)	SW120	SW120	SW120	SW120	SW120
	4/3 - 4/8/2003	4/8 - 4/17/2003	4/17 - 4/19/2003	4/19 - 4/24/2003	4/24 - 5/10/2003
ALUMINUM	1140	280	10350	5490	3720
ANTIMONY	0.95	1.4	2.4	1.7	1.3
ARSENIC	1.3	1.5	4.85	2.6	2.2
BARIUM	153	209	118.5	108	125
BERYLLIUM	0.1	0.09	0.42	0.21	0.24
CADMIUM	0.2	ND	0.14	0.24	0.11
CALCIUM	73300	110000	40250	49100	65100
CHROMIUM	1.9	0.59	12.5	6.9	4.6
COBALT	0.51	0.82	2.8	1.3	1.2
COPPER	4	4.3	15.1	9.7	7.8
IRON	953	283	8515	4340	2740
LEAD	ND	ND	6.95	3.4	2.7
LITHIUM	27.2	57.9	22.25	23.1	36
MAGNESIUM	16300	29700	9605	11300	18300
MANGANESE	15.8	5.2	137.5	56.7	48.8
MERCURY	0.13	ND	ND	ND	ND
MOLYBDENUM	1.3	1.5	1.3	1.4	1.4
NICKEL	2.7	4	8.55	5.8	5.3
POTASSIUM	9400	11000	7585	7380	6830
SELENIUM	ND	ND	1.05	1.6	ND
SILVER	ND	ND	ND	ND	ND
SODIUM	290000	244000	106000	97600	111000
STRONTIUM	477	805	244.5	307	479
THALLIUM	ND	ND	ND	ND	ND
TIN	ND	ND	ND	ND	ND
VANADIUM	2.9	1.2	23.25	12.7	8
ZINC	50.5	35.7	99.45	80.9	65

Table Notes: ND = not detected; R = rejected; A = not applicable; B = not collected; C = incomplete analysis; D = insufficient quantity; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-46. Other Metals, Water Year 2003 [Apr, May, and Jun 2003] (continued).

Analyte (ug/l)	SW120	SW120
	5/10 - 6/6/2003	6/6/2003
ALUMINUM	4120	E
ANTIMONY	2	E
ARSENIC	2.5	E
BARIUM	188	E
BERYLLIUM	ND	E
CADMIUM	ND	E
CALCIUM	94600	E
CHROMIUM	5.7	E
COBALT	1.7	E
COPPER	8.1	E
IRON	3300	E
LEAD	3.7	E
LITHIUM	67.2	E
MAGNESIUM	30300	E
MANGANESE	71.7	E
MERCURY	ND	E
MOLYBDENUM	1.6	E
NICKEL	8.7	E
POTASSIUM	7290	E
SELENIUM	ND	E
SILVER	ND	E
SODIUM	151533	E
STRONTIUM	820	E
THALLIUM	ND	E
TIN	ND	E
VANADIUM	9.3	E
ZINC	69.8	E

Table Notes: E = composite sample in progress

Table 4-47. Water Quality Parameters, Water Year 2003 (Apr, May, Jun 2003).

Location	Sample Dates	Hardness mg/L
GS10	4/7 - 4/17/2003	290
GS10	4/17 - 4/19/2003	78
GS10	4/19 - 4/24/2003	160
GS10	4/24 - 5/10/2003	180
GS10	5/10 - 5/16/2003	B
GS10	5/16 - 6/4/2003	510
GS10	6/4 - 6/9/2003	230
GS10	6/9 - 6/19/2003	400
GS10	6/19 - 6/24/2003	290
GS10	6/24 - 7/7/2003	500
SW027	4/9 - 4/19/2003	110
SW027	4/19 - 5/5/2003	140
SW027	5/5 - 5/11/2003	120
SW027	5/11/2003 -	E
SW093	4/7 - 4/17/2003	310
SW093	4/17 - 4/19/2003	130
SW093	4/19 - 4/24/2003	180
SW093	4/24 - 5/10/2003	210
SW093	5/10 - 5/16/2003	B
SW093	5/16 - 6/11/2003	380
SW093	6/11 - 6/17/2003	210
SW093	6/17 - 6/24/2003	220
SW093	6/24 - 6/30/2003	200
SW093	6/30 - 7/11/2003	180

Table Notes: B = not collected; E = composite sample in progress; * = sampler waiting to trigger on next flow period

Table 4-48. Buffer Zone/Hydrologic Water Quality Parameters, Water Year 2003 (Apr-May 2003).

Location	Sample Date	Analytes (mg/L)								
		TSS	Ca	Mg	Na	K	Cl	F	SO ₄	Total Alkalinity
GS01	4/19/03	2	52.7	13.4	38.2	2.23	73	0.55	45	130
GS01	4/24/03	ND	44.1	10.6	32.9	1.89	57	0.51	37	120
GS03	4/19/03	75	47.5	12.1	62.6	4.46	130	0.46	40	110
GS04	4/6/03	39	29.5	7.04	23.5	1.88	38	0.4	35	75
GS04	4/19/03	16	31.5	7.34	22.4	1.78	29	0.48	36	91
GS04	5/9/03	23	31.6	7.04	19.4	1.8	16	0.48	31	100
SW134	4/14/03	810	15.6	8.32	7.01	6.62	4.7	0.53	13	23
SW134	4/24/03	1600	16.5	7.04	6.17	6.88	3.4	0.33	11	24

Table Notes: ND = not detected

5.0 INCIDENTAL WATERS

5.1 INCIDENTAL WATERS DEFINITION AND ROUTING MATRIX

An incidental water is defined as precipitation, surface water, groundwater, utility water, process water, or waste water collecting in one or more of several types of containments. These containments can include excavation sites, foundation drains, secondary containment berms, electrical vaults, utility pits and manholes, or other natural or manmade depressions, which must be dewatered.

Water collected in this manner has the potential to become contaminated via contact with the surrounding containment material. Sampling and disposition of incidental waters is conducted per Site Procedure 1-C91-EPR-SW.01, *Control and Disposition of Incidental Waters*. Incidental waters are typically sampled for pH, nitrates, conductivity, and gross alpha and gross beta (when radionuclides are suspected). Additional testing for volatile organic compounds and metals is performed when a specific potential contaminant source is known to exist. Disposition depends on the analytical results. Routing options for incidental waters are outlined in the following table.

Table 5-1. Incidental Waters Routing Matrix.

Incidental Water Routing	Routing Criteria	Treatment Processes
Ground/Storm Drain	<ul style="list-style-type: none"> Water meets discharge limits per Incidental Waters procedure 	N/A
Building 995 Waste Water Treatment Plant (WWTP)	<ul style="list-style-type: none"> Water above discharge to ground limits Water meets Internal Waste Streams Program review criteria 	Activated Sludge w/ tertiary clarifiers Dual media filtration UV disinfection
Building 891 Consolidated Water Treatment Facility (CWTF)	<ul style="list-style-type: none"> Water above discharge to ground limits Water not accepted by WWTP Water meets CWTF acceptance criteria and has both radionuclide and organic constituents 	Chemical precipitation Microfiltration UV/ peroxide oxidation Granular activated carbon Ion exchange
Aqueous Waste Treatment System (AWTS)	<ul style="list-style-type: none"> Water above discharge to ground limits Water not accepted by WWTP Water may have radionuclides, organic, RCRA Permitted wastes 	Liquids shipped offsite for treatment by approved vendor

5.2 QUARTERLY INCIDENTAL WATER DISPOSITIONS

Fifty-five (55) incidental waters were sampled/dispositioned during the third quarter of FY03. Table 5-2 summarizes the location and route of disposal.

Table 5-2. Quarterly Incidental Water Dispositions FY2003 (Apr, May, Jun 2003).

Location Or Building	Location Type	Location Description	Number of Incidental Waters	Route of Disposal
115	Transformer Berm	PMO 370-121, NE of B115	1	To B995
119	Transformer Berm	PMO 370-132 East of B119	1	Cancelled
121	Transformer Berm	PMO 370-057 West of B121	1	To Ground or Storm Drain
124	Utility Pit	Pit for water line pressure sensor	1	To Ground or Storm Drain
223	Transformer Berm	PMO 360-A001 West of B223	1	Cancelled
223	Transformer Berm	PMO 360-B002 West of B223	1	To Ground or Storm Drain
223	Transformer Berm	PMO 370-143 South of B223	1	To B995
223	Transformer Berm	PMO 370-144 South of B223	1	To B995
231A	Secondary Containment	Containment around T231A	1	To B891
231B	Secondary Containment	Containment around T231B	1	To B995
231B	Secondary Containment	Secondary containment around T231B	1	To B995
27	Manhole	Electric manhole # 27, east of building.	1	To B995
334	Transformer Berm	PMO 370-010 Northwest of B334	1	To B995
37	Manhole	Electric manhole S. of Bldg. 444, E of 439	1	To B995
4	Manhole	Telecom and Power manholes	1	To B995
440	Transformer Berm	PMO 370-110 North of B440	1	To Ground or Storm Drain
441	Excavation	Excavation for Process Waste lines	1	To B995

Table 5-2. Quarterly Incidental Water Dispositions FY2003 (continued).

Location Or Building	Location Type	Location Description	Number of Incidental Waters	Route of Disposal
462	Cooling Tower	Cooling tower for B460	1	To Ground or Storm Drain
549	Transformer Berm	PMO 360-002 East of B551	1	To B995
551	Excavation	4 excavations around B551	1	To B891
551	Transformer Berm	PMO 370-094 East of B551	1	Cancelled
551	Transformer Berm	PMO 370-124 East of B551	1	Cancelled
559	Transformer Berm	PMO 370-046 East of B559	1	Cancelled
664	Drum	Leaking roof in B664 collecting in drum liner	1	To Ground or Storm Drain
679/680	Transformer Berm	PMO 350-009 679/680 Substation	1	To B891
679/680	Transformer Berm	PMO 350-010 679/680 Substation	1	To B891
702	Cooling Tower	Pad where cooling tower once was.	1	To Ground or Storm Drain
708	Manhole	Manhole off road, E of 708 and S of 707	1	To B995
708	Transformer Berm	PMO 360-007 West of B708	1	To Ground or Storm Drain
708	Transformer Berm	PMO 370-021 West of B708	1	Cancelled
708	Transformer Berm	PMO 370-119 West of B708	1	Cancelled
708	Transformer Berm	PMO 370-120 West of B708	1	Cancelled
709	Cooling Tower	Cooling Tower Pad 709	1	Cancelled
709	Cooling Tower	Cooling Tower Pad 709	1	To Ground or Storm Drain
750	Transformer Berm	PMO-370-056	1	To B995
750PAD	Secondary Containment	Secondary containment around hydraulic units	1	To Ground or Storm Drain

Table 5-2. Quarterly Incidental Water Dispositions FY2003 (continued).

Location Or Building	Location Type	Location Description	Number of Incidental Waters	Route of Disposal
750PAD	Transformer Berm	PMO 370-145 West of B750 on pad	1	To B891
771	Transformer Berm	PMO 370-138 Southeast of B771	1	To B891
772	Transformer Berm	PMO 370-150 North of B772	1	Cancelled
776	Transformer Berm	PMO 360-008 Northwest of B776	1	To Ground or Storm Drain
790	Excavation	DCS isolation excavation	1	To Ground or Storm Drain
790	Sump	Foundation drain sump	1	To B891
790	Sump	Sump SW of 790 for foundation drain	1	Cancelled
865	Transformer Berm	PMO 370-043 West of B865	1	To Ground or Storm Drain
865	Transformer Berm	PMO 370-044 West of B865	1	To B995
881	Cooling Tower	Cooling tower south of Bldg. 881 (CT-1 and CT-2)	1	Cancelled
887	Drum	Drum collected from secondary containment	1	To AWTS
903PAD	Tank	903PAD Tanks - Rainwater pumped from excavations	1	To Ground or Storm Drain
904PAD	Transformer Berm	PMO 370-142 904PAD	1	Cancelled
910	Excavation	Water main break under Spruce Ave. South of 910	1	To Ground or Storm Drain
985	Tank	Deluge tank in B985	1	To B995
991	Drum	Runoff from B998 tunnel collected in 55-ga drums	1	To B995
T371C	Transformer Berm	PMO 376-035 North of T371-C	1	To Ground or Storm Drain
T771	Transformer Berm	PMO 376-034 East of T771	1	To Ground or Storm Drain
VV16-20	Utility Pit	Storm water from VV16-20 and B428	1	To B995

The 55 incidental waters requiring treatment were routed to the following Site treatment facilities:

- Building 995 – WWTP 17
- Building 891 – CWTF 7
- AWTS 1
- Ground 17
- Cancelled 13

