

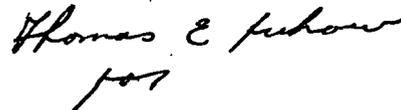
C. Spreng and M. Aguilar
05-DOE-00522

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AUG 16 2005

and is evaluated (completion within approximately 30 days), and (2) continued routine monitoring as required by RFCA and the Site Integrated Monitoring Plan. If you have any questions, please contact me at (303) 966-6246.

Sincerely,

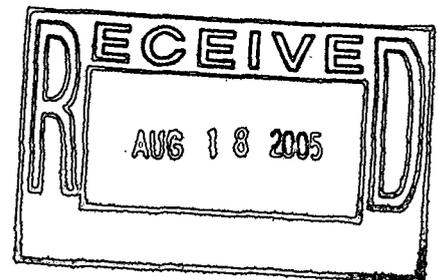


John J. Rampe, Director
RFPO Closure Project Management

Enclosure

cc w/Enclosure:

D. Kruchek, CDPHE
S. Garcia, City of Broomfield
A. Nelson, City of Westminster
V. Lucero, City of Thornton
C. Johnson, City of Arvada
S. Stanley, City of Northglenn
P. Rice, RFCAB
R. Getty, RFCLOG
B. Niningger, K-H



NOTIFICATION AND SOURCE EVALUATION PLAN FOR REPORTABLE URANIUM SURFACE -WATER MONITORING RESULTS AT RFCA POINT OF EVALUATION GS10

The purpose of this plan is to provide notification of recently observed reportable concentrations of uranium in surface water at Rocky Flats Cleanup Agreement (RFCA) Point of Evaluation (POE) surface-water monitoring station GS10, which is located in the South Walnut Creek upstream of Pond B-1 in Walnut Creek basin, and to provide an outline of proposed source evaluation efforts in response to water-quality monitoring results.

The calculated 30-day moving average for total uranium¹ (U) triggered the reporting requirements under RFCA Attachment 5, Section 2.4 (B) for July 10, 2005, using validated data. Additional data recently received but not validated extend the U event through July 27, 2005 (for details, see Table 1). As of July 27, 2005, the 30-day average for U remained at a potentially reportable level (unvalidated). The end of the reportable period will be confirmed when the Site receives subsequent validation reports for these data. Analytical results for all samples that were used in the calculation are listed in Table 2.

Table 1 – Reportable 30-Day Average Values for RFCA POE Monitoring Location GS10 Using Validated Data

Analyte	Dates of Reportable Value	Range of Reportable 30-day Avg. Values (pCi/L)
Uranium	7/10/05 – to be determined	10.91 – to be determined

Table 2 – Analytical Results for Composite Samples Collected at GS10 Used in the 30-Day Average Calculations (Validated through 6/22/2005 Sample).

Composite Sample Start Date	Total Uranium Analytical Result (pCi/L)
6/11/2005	10.60
6/22/2005	11.22
7/11/2005	13.96

RFCA Reporting Protocol

Please be advised that within five (5) business days of confirming reportable values (which ends August 11, 2005) the Department of Energy (DOE) is expected, per RFCA, to provide informal preliminary notice stating that RFCA-reportable values have been observed at a RFCA POE. This preliminary notice is sent to other Rocky Flats Environmental Technology Site (RFETS) personnel, the RFCA Project Coordinators, and pre-approved contacts at the Cities of Arvada, Broomfield, Westminster, Thornton, and Northglenn.

To meet the RFCA commitment, DOE must transmit more comprehensive information to the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) within the 15-day reporting period, which ends August 19, 2005. In addition, RFCA also requires that the DOE, within 30 days of gaining knowledge of the reportable results, submit to EPA and CDPHE a source evaluation plan addressing this reportable

¹ Total uranium is calculated as the sum of the isotopic results: U-233,234 + U-235 + U-238

value. This letter serves as both the comprehensive notice and the plan for that source evaluation, based on consideration for other evaluative work already performed in this drainage.

Downstream Water Quality Monitoring

Water flowing through GS10 also passes through the lower B-series ponds (Ponds B-4 and B-5) and South Walnut Creek before leaving the Site. RFCA Points of Compliance (POCs) GS08 (Pond B-5 outlet) and GS03 (Walnut Cr. at Indiana St.) again monitor this water. GS10 analytical results and the reportable 30-day average values were compared with those for pre-discharge samples collected from Pond B-5 prior to the July 2005 direct discharge and from RFCA POC monitoring stations GS08 and GS03 for the July discharge (7/14 – 7/21/05). Monitoring results from Pond B-5 (pre-discharge sample) met all applicable water-quality criteria. Analytical results for composite samples collected at GS08 (1 sample) and GS03 (2 samples) were well below applicable standards for all monitored analytes.

A portion of the water retained in Pond B-5 was also pump transferred to Pond A-4 (7/6 – 7/12/05 and 7/21 – 7/25/05). The water from the 7/6 – 7/12 transfer was subsequently direct discharged from Pond A-4 to Walnut Creek (7/14 – 7/21/05). Monitoring results from Pond A-4 (pre-discharge sample) met all applicable water-quality criteria. Analytical results for composite samples collected at GS11 (Pond A-4 outlet; 1 sample) and GS03 (2 samples) were well below applicable standards for all monitored analytes. The water from the 7/21 – 7/25/05 transfer is currently being retained in Pond A-4.

Preliminary Water-Quality Evaluation

Total uranium concentrations began increasing at GS10 in October 2004, with the first reportable 30-day average value occurring in July 2005 (Attachment 2). As of the end of July 2005, the only remaining upstream monitoring location was GS40 (Attachment 1). At approximately the same time, total uranium concentrations at GS40 also showed increases (Attachment 3), leading to the initial conclusion that the uranium at GS10 was originating in the 700 Area. However, starting in May 2005 uranium at GS40 began decreasing back to near normal levels, while GS10 continued to show higher than normal levels. While a portion of the uranium measured at GS40 may still be moving through the surface-water/groundwater system to GS10, the majority of the recent uranium measured at GS10 is likely to originate elsewhere.

Attachment 4 shows that the higher uranium results are generally associated with lower flow rates. This relationship has also been noted at many other monitoring locations at the Site during baseflow periods. This suggests that uranium in surface water is associated with groundwater seeps and/or shallow interflows which sustain baseflow, and not movement of particulate matter (suspended solids) during direct runoff events. While actinides such as Pu and Am are transported with particulate matter, a relatively larger portion of uranium loads can be associated with the dissolved fraction.

Recommendation

The preliminary findings and conclusions given here suggest that the uranium observed at GS10 may be related to contributions from groundwater seeps and/or shallow interflow in the Functional Channel 4 area. We will continue to investigate this event. Surface-water samples upstream of GS10 have already been collected, with the evaluation of the isotopic uranium results ongoing. Complimentary groundwater samples have also been collected in the area to aid in that evaluation.

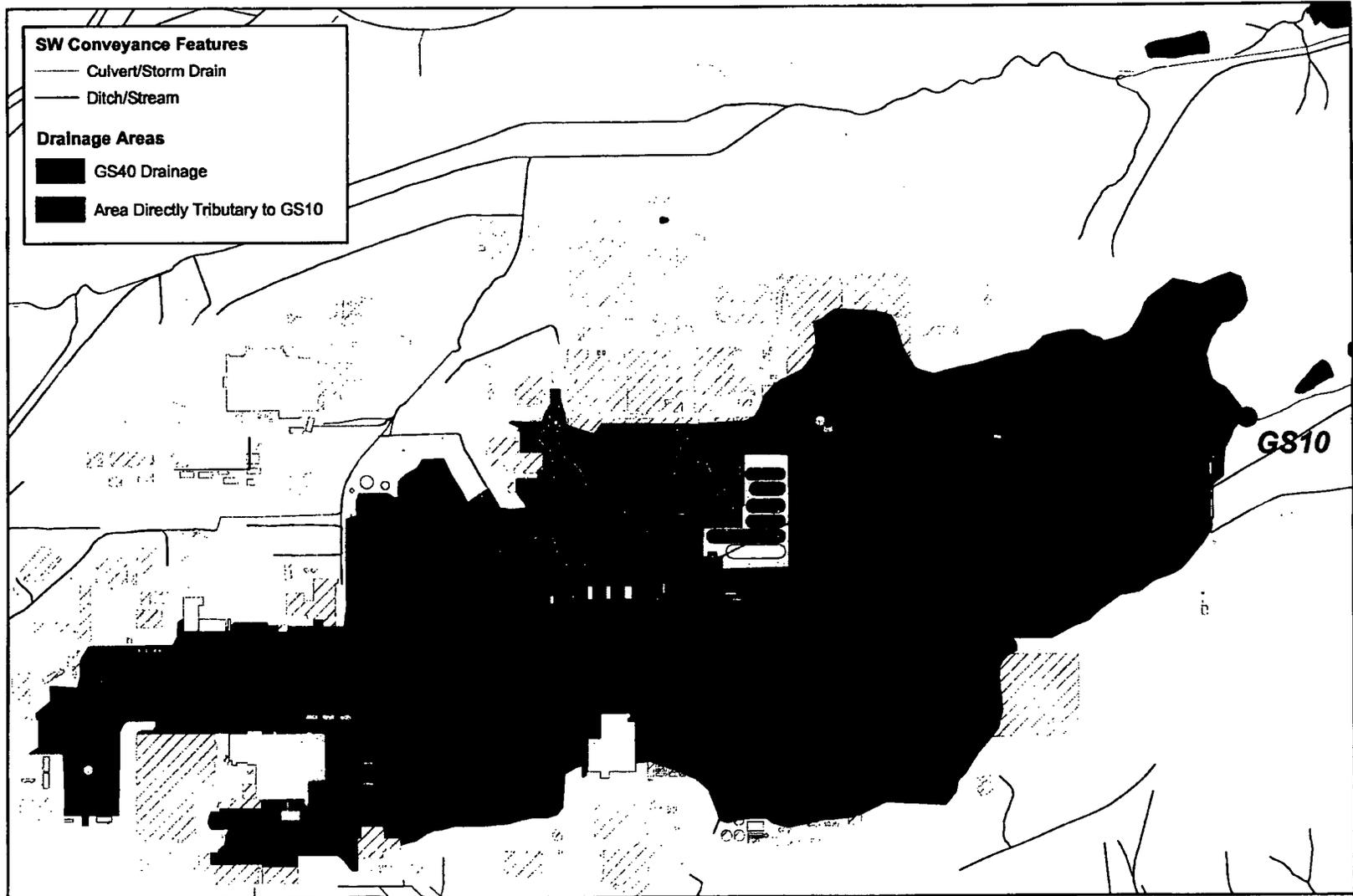
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The following is proposed in response to these reportable values at GS10:

(1) A more comprehensive data evaluation for GS10 will be completed when the evaluation of the additional surface-water and groundwater data is complete. With the elimination of direct runoff and footing drain flow from the central 700 Area, any subsequent changes in water quality at GS10 will also be assessed. The resulting report will include an updated GS10 source evaluation summary using all available data at the time of publication. This evaluation will include a detailed monitoring summary, an assessment of water-quality correlations, and an assessment of Decontamination and Decommissioning (D&D), Environmental Restoration, and Site Closure project activities within the GS10 drainage that could have influenced water quality at GS10. We anticipate this comprehensive evaluation within approximately 30 days.

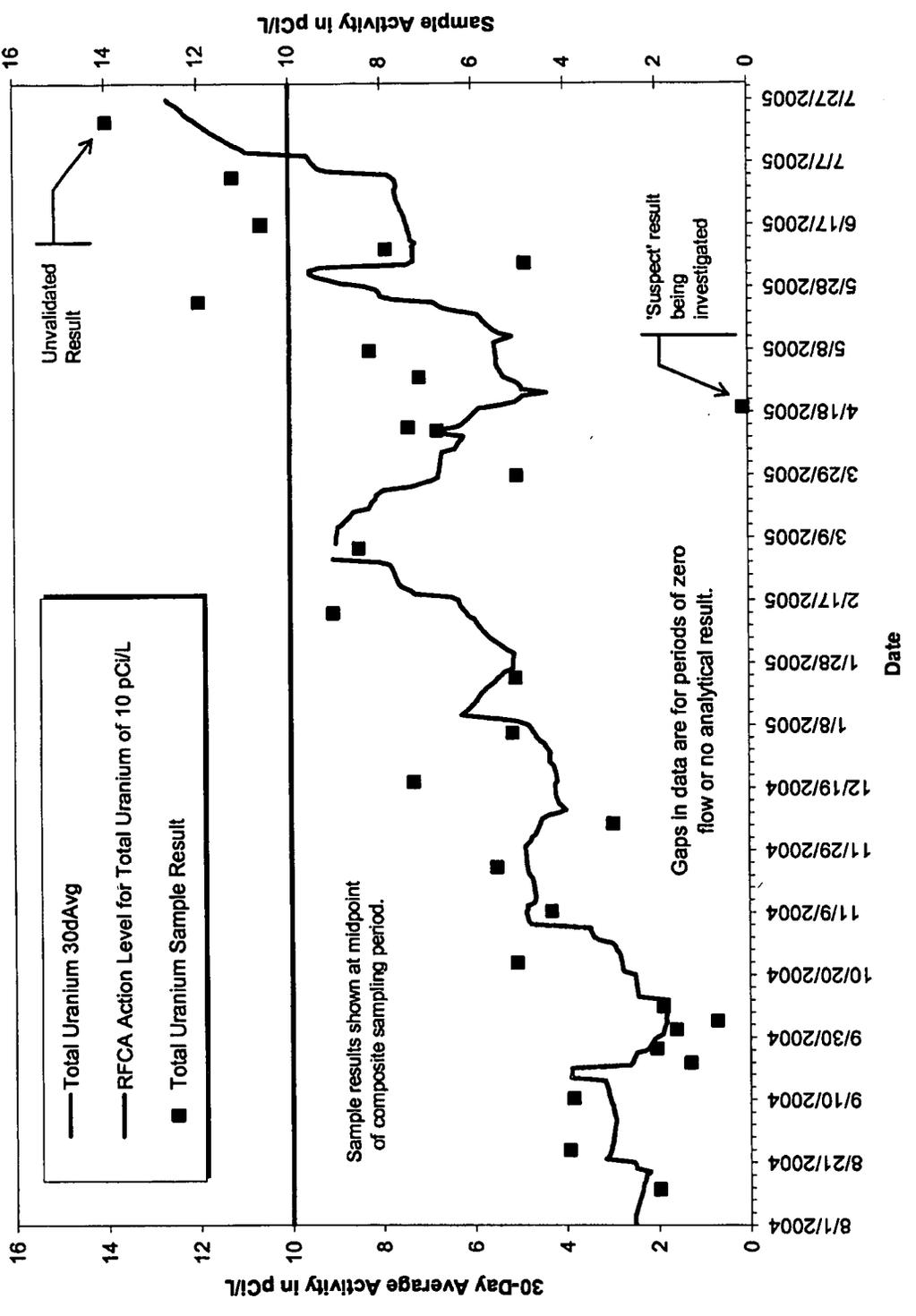
(2) Continued routine monitoring as required by RFCA and the Site Integrated Monitoring Plan.

We will strive to augment or modify these proposed and possible actions to align them with the Site's Closure Plan.



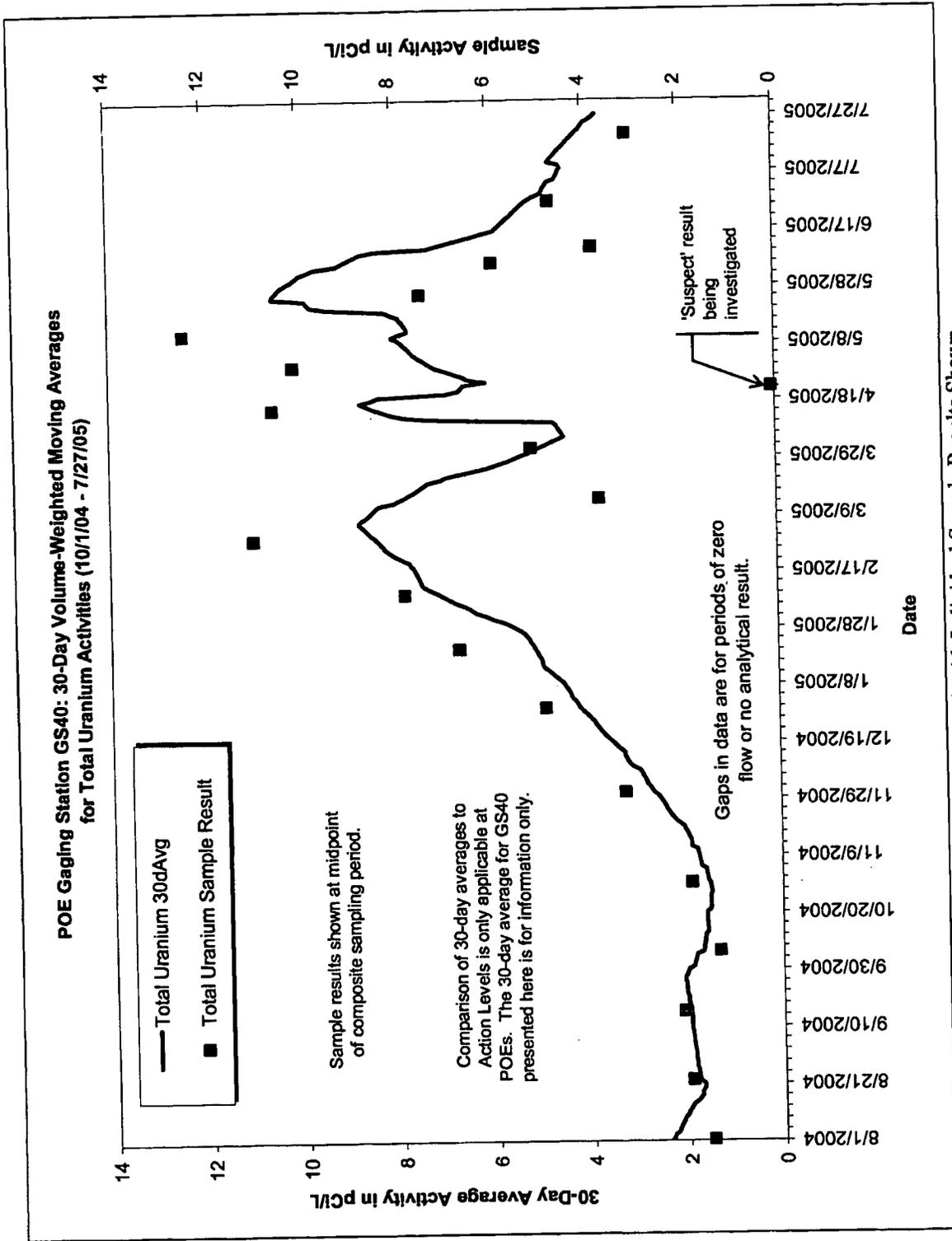
Attachment 1: Map Showing GS10 Sub-Drainages and Upstream Monitoring Locations.

**POE Gaging Station GS10: 30-Day Volume-Weighted Moving Averages
for Total Uranium Activities (8/1/04 - 7/27/05)**



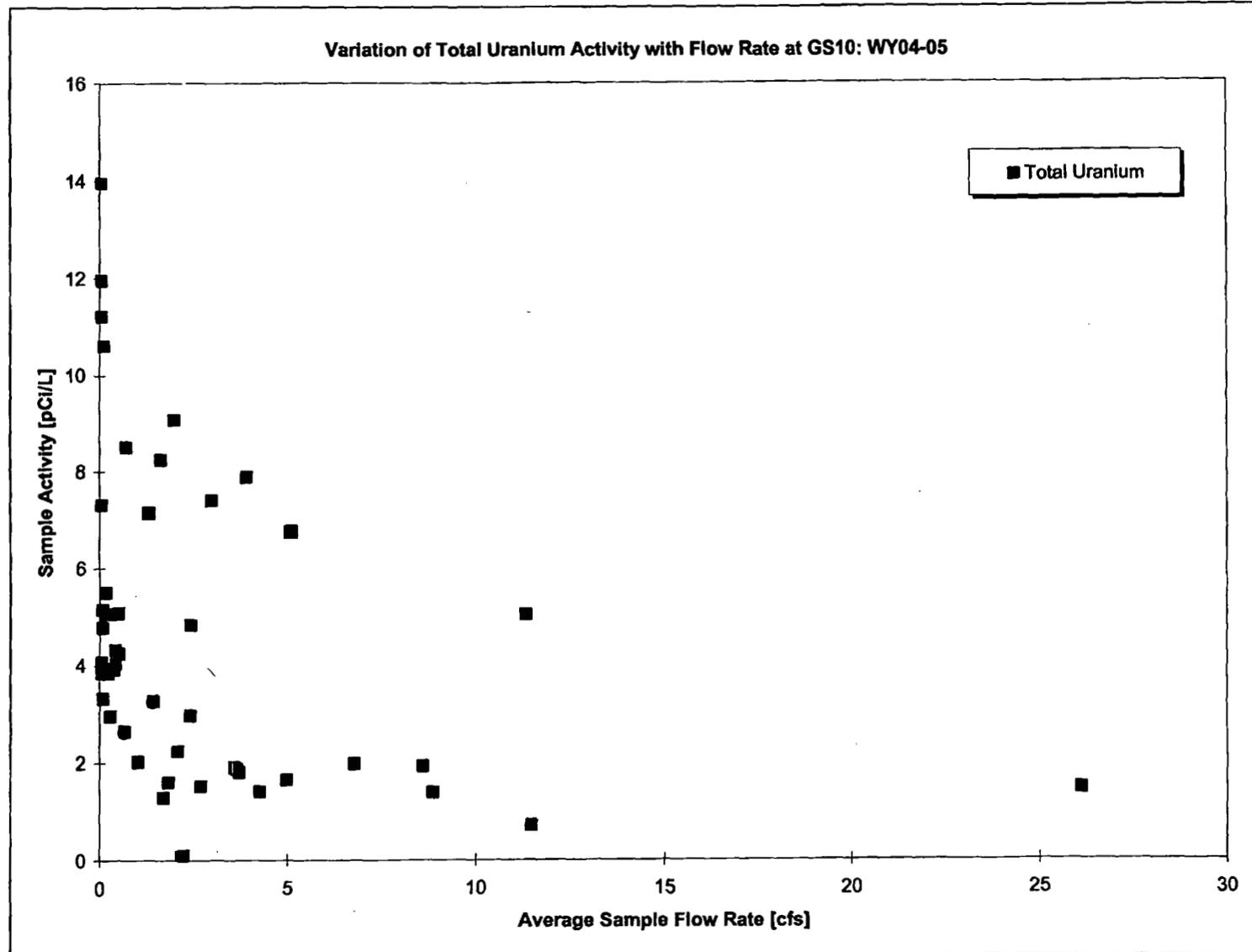
Attachment 2: Total Uranium 30-Day Averages at GS10 with Individual Sample Results Shown.

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Attachment 3: Total Uranium 30-Day Averages at GS40 with Individual Sample Results Shown.

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Attachment 4: Variation of Total Uranium with Flow Rate at GS10: WY04-05.