Pre-discharge samples for Ponds A-4 and B-5 were collected on 8/15/11. All results indicate that water quality standards at downstream Points of Compliance (POCs) will be met during discharge. Discharge of Ponds A-4 and B-5 is scheduled to begin at 12:00 pm on 9/12/11.

Pond A-4 will be direct discharged using the outlet works to North Walnut Creek through AMP monitoring location GS11. All required monitoring at downstream POCs WALPOC (Walnut Creek at Site boundary) and GS03 (Walnut Creek at Indiana Street) will be performed according to the normal protocols in Attachment 2 to RFLMA. The discharge is expected to continue for approximately 12 days until the water level reaches the outlet valve elevation (pond volume of approximately 10%). At that point the valve will remain open and Pond A-4 will subsequently be operated in a flow-through configuration. From then on, locations GS11, WALPOC, and GS03 will operate continuously and collect samples according to the location-specific requirements and water availability.

Pond B-5 will be direct discharged using the outlet works to South Walnut Creek through AMP monitoring location GS08. All required monitoring at downstream POCs WALPOC (Walnut Creek at Site boundary) and GS03 (Walnut Creek at Indiana Street) will be performed according to the normal protocols in Attachment 2 to RFLMA. The discharge is expected to continue for approximately 13 days until the water level reaches the outlet valve elevation (pond volume of approximately 10%). At that point the valve will remain open and Pond B-5 will subsequently be operated in a flow-through
configuration. From then on, locations GS08, WALPOC, and GS03 will operate continuously and collect samples according to the location-specific requirements and water availability.

All available analytical data accompany this notice.

Please contact me if you have questions.
Laboratory Results For Sample Number: ENV-2011009439-

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Result</th>
<th>Units</th>
<th>MCL</th>
<th>MRL</th>
<th>Method Name</th>
<th>Date Analyzed</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranium, Total*</td>
<td>0.0054</td>
<td>mg/L</td>
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<td>EPA 200.8</td>
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<td>Americium-241</td>
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<td>pCi/L</td>
<td>NA</td>
<td>0.01</td>
<td>ASTM-3084-89</td>
<td>08/29/2011</td>
<td>00:00:00</td>
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Comments:
Pu-238 MDL = 0.006 pCi/L

Registry Comments:
Site ID/PWSID

Site Description ROCKY FLATS POND A4

Customer ID 00008835

Customer CDPHE - HMWMD - Rocky Flats Unit

4300 Cherry Creek Drive South

Denver CO 80246

Test Name | Result | Units | MCL | MRL | Method Name | Date Analyzed | Qualifier |
---|---|---|---|---|---|---|---|
Uranium, Total* | 0.0066 | mg/L | 0.030 | 0.001 | EPA 200.8 | 08/23/2011 | 00:00:00 |
Nitrogen, Nitrate* | 0.16 | mg/L | 10 | 0.1 | EPA 300.0 | 08/17/2011 | 00:00:00 |
Plutonium, Isotopic Package* | < 0.006 | pCi/L | NA | 0.007 | ASTM-3084-89 | 08/29/2011 | 00:00:00 |
Amercium-241 | < 0.014 | pCi/L | NA | Varies | ASTM-3084-89 | 08/29/2011 | 00:00:00 |

Comments:
Am-241 MDL = 0.014 pCi/L

Registry Comments:

MRL - Minimum Reporting Limit. MCL - Maximum Contaminant Limit per EPA regulations.
Units: mg/L - milligrams per liter (ppm), ug/L - micrograms per liter (ppb), pCi - picoCuries
LSD Internet Address: http://www.cdphe.state.co.us/lr/lrhom.htm
<table>
<thead>
<tr>
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<th>Date Sampled</th>
<th>Date Analyzed</th>
<th>Result</th>
<th>Qualifier(s)</th>
<th>Uncertainty</th>
<th>Detection Limit</th>
<th>Method</th>
</tr>
</thead>
<tbody>
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<td>08/20/2011</td>
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<td>08/19/2011</td>
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<td>08/18/2011</td>
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<td>08/18/2011</td>
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<td>mg/L</td>
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<td>08/17/2011</td>
<td>0.050</td>
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<td>EPA 353.2</td>
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<td>Date Sampled</td>
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<td>Result</td>
<td>Qualifier(s)</td>
<td>Uncertainty</td>
<td>Detection Limit</td>
<td>Method</td>
</tr>
<tr>
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<td>08/20/2011</td>
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<td>08/19/2011</td>
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<td>0.067</td>
<td>EPA 3005/6020</td>
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<td>0.00615</td>
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Data Review and Validation Report

General Information

Report Number (RIN): 11084025
Sample Event: August 15, 2011
Site(s): Rocky Flats, Colorado; Surface Water
Laboratory: GEL Laboratories, Charleston, South Carolina
Work Order No.: 273432
Analysis: Metals, Wet Chemistry, and Radiochemistry
Validator: Gretchen Baer
Review Date: August 31, 2011

This validation was performed according to the Environmental Procedures Catalog, (LMS/PRO/S04325, continually updated) “Standard Practice for Validation of Laboratory Data.” The procedure was applied at Level 3, Data Validation. See attached Data Validation Worksheets for supporting documentation on the data review and validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 1.

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Line Item Code</th>
<th>Prep Method</th>
<th>Analytical Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate + Nitrite as N</td>
<td>WCH-A-019</td>
<td>EPA 353.2</td>
<td>EPA 353.2</td>
</tr>
<tr>
<td>Plutonium Isotopes</td>
<td>LMR-08</td>
<td>HASL-300, Pu-11</td>
<td>HASL-300, Pu-11-RC</td>
</tr>
<tr>
<td>Uranium</td>
<td>LMM-02</td>
<td>SW-846 3005A</td>
<td>SW-846 6020</td>
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</tbody>
</table>

Data Qualifier Summary

Analytical results were qualified as listed in Table 2. Refer to the attached validation worksheets and the sections below for an explanation of the data qualifiers applied.

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Location</th>
<th>Analyte</th>
<th>Flag</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>284074-001</td>
<td>A4 POND</td>
<td>Nitrate + Nitrite as N</td>
<td>J</td>
<td>Shipment temperature not compliant</td>
</tr>
</tbody>
</table>
Sample Shipping/Receiving

GEL Laboratories in Charleston, South Carolina, received two water samples on August 16, 2011, accompanied by a Chain of Custody (COC) form. The air waybill numbers were listed on the Sample Receipt and Review Form. The COC form was checked to confirm that all of the samples were listed with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The COC form was complete with no errors or omissions with the following exceptions. The COC lists an incorrect preservative for nitrate + nitrite as N analysis. The samples were preserved correctly; the error is limited to the COC and the sample bottle labeling. The temperature requirement for nitrate + nitrite as N preservation was not listed.

Preservation and Holding Times

The sample shipment was received intact and at ambient temperature, which does not comply with requirements. The nitrate + nitrite as N method requires cold preservation; the nitrate + nitrite as N results are qualified with a “J” flag as estimated values. All other samples were preserved correctly. All samples were received in the correct container types and all samples were analyzed within the applicable holding times.

Laboratory Instrument Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data for all analytes. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear curve. Compliance requirements for continuing calibration checks are established to ensure that the instrument continues to be capable of producing acceptable qualitative and quantitative data. All laboratory instrument calibrations were performed correctly in accordance with the cited methods. Calibration and laboratory spike standards were prepared from independent sources.

Methods EPA 353.2, Nitrate + Nitrite as N
Calibrations were performed using five calibration standards on August 17, 2011. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than three times the method detection limit (MDL). Initial and continuing calibration verification checks were made at the required frequency resulting in four verification checks. All calibration check results were within the acceptance criteria.

Method SW-846 6020, Uranium
Calibrations were performed on August 19, 2011, using two calibration standards. The calibration curve correlation coefficient values were greater than 0.995 and the absolute values of the intercepts were less than three times the MDL. Initial and continuing calibration verification checks were made at the required frequency resulting in two verification checks. All calibration checks met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit and all results were within the acceptance range. Mass calibration and resolution verifications were performed at the beginning of each analytical run in accordance with the analytical procedure. Internal standard recoveries associated with requested analytes were stable and within acceptable ranges.
Radiochemical Analysis

Radiochemical results are qualified with a “U” flag (not detected) when the result is greater than
the minimum detectable concentration (MDC) but less than the Decision Level Concentration,
estimated as three times the one-sigma total propagated uncertainty. Results above the Decision
Level Concentration and the MDC are qualified with a “J” flag (estimated) when the result is less
than the Determination Limit (three times the MDC).

Alpha Spectrometry
Alpha spectrometry calibrations and instrument backgrounds were performed within a month
previous to sample analysis. Calibration standards were counted to obtain a minimum of 10,000
counts per peak. Daily instrument checks met the acceptance criteria. The tracer recoveries met
the acceptance criteria of 30 to 110 percent for all samples. The full width at half maximum
(FWHM) was reviewed to evaluate the spectral resolution. All internal standard FWHM values
were below 100 kiloelectron volts (keV) demonstrating acceptable resolution. All internal
standard peaks were within 50 keV of the expected position. The regions of interest (ROIs) for
analyte peaks were reviewed. No manual integrations were performed and all ROIs were
satisfactory. All results were blank-corrected using data from a blank population.

Method and Calibration Blanks

Method blanks are analyzed to assess any contamination that may have occurred during sample
preparation. Calibration blanks are analyzed to assess instrument contamination prior to and
during sample analysis. All method blank and calibration blank results associated with metals
and wet chemistry samples were below the practical quantitation limits and method detection
limits for all analytes. The radiochemistry method blank results were less than the Decision
Level Concentration.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis

ICP interference check samples ICSA and ICSAB were analyzed at the required frequency to
verify the instrumental interelement and background correction factors. All ICSAB check sample
results met the acceptance criteria.

Matrix Spike Analysis

Matrix spike (MS) samples are used to measure method performance in the sample matrix. The
MS data are not evaluated when the concentration of the unspiked sample is greater than four
times the spike concentration. The spike recoveries met the acceptance criteria for all analytes
evaluated.

Laboratory Replicate Analysis

Laboratory replicate analyses are used to determine laboratory precision for each sample matrix.
The relative percent difference for non-radiochemical replicate results that are greater than
five times the practical quantitation limit (PQL) should be less than 20 percent. For results that
are less than five times the PQL, the range should be no greater than the PQL. The replicate
results met these criteria, demonstrating acceptable laboratory precision. The relative error ratio
for radiochemical replicate results (calculated using the one-sigma total propagated uncertainty) was less than three, indicating acceptable precision

**Laboratory Control Sample**

Laboratory control samples were analyzed at the correct frequency to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation. All control sample results were acceptable.

**Metals Serial Dilution**

Serial dilutions were prepared and analyzed for the metals analyses to monitor chemical or physical interferences in the sample matrix. Serial dilution data are evaluated when the concentration of the undiluted sample is greater than 100 times the practical quantitation limit for method 6020. The serial dilution results met the acceptance criteria.

**Detection Limits/Dilutions**

No dilutions were required for sample analysis. The required detection limits were met for all metals and wet chemistry analytes. All radiochemical minimum detectable concentrations (MDCs) were calculated using data from a blank population as specified in *Quality Systems for Analytical Services*. All reported MDCs were less than the required MDCs.

**Completeness**

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers. The analytical report included the method detection limit (minimum detectable concentration for radiochemistry) and practical quantitation limit for all analytes and all required supporting documentation.

**Electronic Data Deliverable (EDD) File**

The EDD file arrived on August 30, 2011. The Sample Management System EDD validation module was used to verify that the EDD file was complete and in compliance with requirements. The module compares the contents of the file to the requested analyses to ensure all and only the requested data are delivered. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package.

Report Prepared By: ______________________________________________________
SAMPLE MANAGEMENT SYSTEM
General Data Validation Report

RIN: 11084925    Lab Code: GEN    Validator: Gretchen Beer    Validation Date: 8/31/2011
Project: Rocky Flats Surface Water    Analysis Type: ☑ Metals    ☑ General Chem    ☑ Rad    ☐ Organics
# of Samples: 2    Matrix: Water    Requested Analysis Completed: Yes

Chain of Custody
Present: OK    Signed: OK    Dated: OK

Sample
Integrity: OK    Preservation: OK    Temperature: NO

Select Quality Parameters
☑ Holding Times
☑ Detection Limits
☐ Field/Trip Blanks
☐ Field Duplicates

All analyses were completed within the applicable holding times.
The reported detection limits are equal to or below contract requirements.
## SAMPLE MANAGEMENT SYSTEM

### Metals Data Validation Worksheet

**RIN:** 11084025  
**Lab Code:** GEN  
**Date Due:** 8/30/2011  
**Matrix:** Water  
**Site Code:** RFS02  
**Date Completed:** 8/30/2011

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<tr>
<th>Analyte</th>
<th>Method Type</th>
<th>Date Analyzed</th>
<th>CALIBRATION</th>
<th>Method Blank</th>
<th>LCS %R</th>
<th>MS %R</th>
<th>MSD %R</th>
<th>Dup. RPD</th>
<th>ICSAB %R</th>
<th>Serial Dil. %R</th>
<th>CRI %R</th>
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SAMPLE MANAGEMENT SYSTEM
Wet Chemistry Data Validation Worksheet

RIN: 11084025  Lab Code: GEN  Date Due: 8/30/2011
Matrix: Water  Site Code: RFS02  Date Completed: 8/30/2011

<table>
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<th>Analyte</th>
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<th>CALIBRATION</th>
<th>Method</th>
<th>LCS %R</th>
<th>MS %R</th>
<th>MSD %R</th>
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<th>Serial Dil. %R</th>
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<tbody>
<tr>
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## SAMPLE MANAGEMENT SYSTEM

### Radiochemistry Data Validation Worksheet

**RIN:** 11084026  
**Lab Code:** GEN  
**Date Due:** 8/30/2011  
**Matrix:** Water  
**Site Code:** RFS02  
**Date Completed:** 8/30/2011

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<th>LCS %R</th>
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