Raynes, Scott (CONTR)

From: Squibb, George (CONTR)
Sent: Wednesday, August 31, 2011 7:22 PM
To: Bob Krugmire (bkrugmir@cityofwestminster.us); Boylan, John; Bruce Hastings (bruce_hastings@fws.gov); Bud Hart (Thornton); Carl Spreng (carl.spreng@state.co.us); Carpenter, Andy (CONTR); Cathy Shugarts (cshugarts@cityofwestminster.us); Christine Hawley (hawley@hydrosconsulting.com); Craig Hoffman (choffman@ci.broomfield.co.us); Dan Mayo (dmayo@ci.broomfield.co.us); Darr, Bob (CONTR); David Abelson (dabelson@rockyflatssc.org); David Allen (dallen@ci.broomfield.co.us); DiSalvo, Rick (CONTR); Ed Lanyon (edward.lanyon@cityofthornton.net); Emily Hunt (emily.hunt@cityofthornton.net); Kaiser, Linda (CONTR); Kathy Schnoor; Laura Hubbard; Mark Gutke (JeffCo) ; McLaughlin, Jeremiah; Paul Winkle (DOW) ; rc-rocky.flats; Rik Getty (rgetty@rockyflatssc.org); Shelly Stanley (SStanley@northglenn.org); Shirley Garcia (sgarcia@ci.broomfield.co.us); Steve Berendzen (steve_berendzen@fws.gov); Surovchak, Scott; Vera Moritz (moritz.vera@epa.gov)
Subject: Pond Discharge Notification
Attachments: A-4_B-5BroadcastEmail110831.pdf

Importance: High

Please see attached notification.

Contact me if you have any questions or comments. Thanks

George S. Squibb IV
Sr. Environmental Engineer / Surface-Water Lead S.M. Stoller, Rocky Flats Site
720-377-9675 (office); 303-994-0145 (mobile) george.squibb@lm.doe.gov

Pond Discharge Notification Cover Sheet
Date: 8/31/11
Total pages including cover sheet = 14

To:

Carl Spreng,	CDPHE	carl.spreng@state.co.us
Vera Moritz	EPA	moritz.vera@epa.gov
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Mark Gutke	JeffCo	mgutke@co.jefferson.co.us
Paul Winkle	DOW	paul.winkle@state.co.us
David Abelson	RFSC	dabelson@rockyflatssc.org

From: George Squibb, Rocky Flats Surface Water Lead, telephone (303) 994-0145

Re: Discharge notification for Rocky Flats Ponds A-4 and B-5.

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 the week of 9/5/11.

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.

John W. Hickenlooper, Governor
Christopher E. Urbina, MD, MPH, Executive Director and Chief Medical Officer

STATE OF COLORADO

Dedicated to protecting and improving the health and environment of the people of Colorado

Laboratory Services Division
8100 Lowry Boulevard Denver, CO 80230
PO Box 17123 Denver, CO 80217
303-692-3090
www.cdphe.state.co.us/lr

Colorado Department of Public Health and Environment

Laboratory Results For Sample Number: ENV-2011009439-

Site ID/PWSID

Site Address

Site Description ROCKY FLATS POND B5

Customer ID 00008835

Customer CDPHE - HMWMD - Rocky Flats Unit
4300 Cherry Creek Drive South

Denver CO 80246

Contact Carl Spreng
Phone x3358
Fax
Email

Collected By CS
Collected 08/15/2011 10:30:00
Received 08/15/2011 14:49:00
Reported 08/30/2011 00:00:00
Bottles 1 CUB, 1 250NEUT
Matrix Surface Water
Field Fluoride
Residual Chlorine
Temperature at Receipt 20C

Test Name	Result	Units	MCL	MRL	Method Name	Date Analyzed	Qualifier
Uranium, Total*	0.0054	mg/L	0.030	0.001	EPA 200.8	08/23/2011 00:00:00	
Nitrogen, Nitrate*	0.17	mg/L	10	0.1	EPA 300.0	08/17/2011 00:00:00	
Plutonium, Isotopic Package*							
Plutonium-239+240	< 0.005	pCi/L	NA	0.005	ASTM-3084-89	08/29/2011 00:00:00	
Americium-241	< 0.011	pCi/L	NA	0.01	ASTM-3084-89	08/29/2011 00:00:00	

Comments:
Pu-238 MDL = 0.006 pCi/L

Registry Comments:

MRL - Minimum Reporting Limit. MCL - Maximum Contaminant Limit per EPA regulations.
BDL - Below Detection Limit. H - Holding Time exceeded. Q - Quality Control limit exceeded. NT - No Test.
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

John W. Hickenlooper, Governor
Christopher E. Urbina, MD, MPH, Executive Director and Chief Medical Officer

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Colorado Department of Public Health and Environment

Laboratory Results For Sample Number: ENV-2011009440-

Site ID/PWSID

Site Address

Site Description ROCKY FLATS POND A4

Customer ID 00008835

Customer CDPHE - HMWMD - Rocky Flats Unit
4300 Cherry Creek Drive South

Denver CO 80246

Contact Carl Spreng
Phone x3358
Fax
Email

Collected By CS
Collected 08/15/2011 10:00:00
Received 08/15/2011 15:43:00
Reported 08/30/2011 00:00:00
Bottles 1 CUB, 1 250NEUT
Matrix Surface Water
Field Fluoride
Residual Chlorine
Temperature at Receipt 20C

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*							
Plutonium-239+240	< 0.006	pCi/L	NA	0.007	ASTM-3084-89	08/29/2011 00:00:00	
Americium-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.
BDL - Below Detection Limit. H - Holding Time exceeded. Q - Quality Control limit exceeded. NT - No Test.
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

PRELIMINARY RESULTS REPORT
RIN: 11084025
Site: Rocky Flats Surface Water
Site Code: RFS01 Location: A4 POND
Ticket Number: JJT 463
Report Date: 8/30/2011

Parameter	Units	Date Sampled	Date Analyzed	Result	Qualifier(s)	Uncertainty	Detection Limit	Method
Americium-241	pCi/L	08/15/2011	08/20/2011	-0.0014	U	0.00474	0.00878	Am-05-RC Modified
Uranium	ug/L	08/15/2011	08/19/2011	7.12			0.067	EPA 3005/6020
Plutonium-238	pCi/L	08/15/2011	08/18/2011	0.00	U	0.00232	0.0156	Pu-11-RC Modified
Plutonium-239/240	pCi/L	08/15/2011	08/18/2011	-0.00118	U	0.00613	0.0218	Pu-11-RC Modified
NO2+NO3 as N	mg/L	08/15/2011	08/17/2011	0.050	U		0.050	EPA 353.2

PRELIMINARY RESULTS REPORT
RIN: 11084025
Site: Rocky Flats Surface Water
Site Code: RFS01 Location: B5 POND
Ticket Number: JJT 469
Report Date: 8/30/2011

Parameter	Units	Date Sampled	Date Analyzed	Result	Qualifier(s)	Uncertainty	Detection Limit	Method
Americium-241	pCi/L	08/15/2011	08/20/2011	0.00293	U	0.00705	0.00922	Am-05-RC Modified
Uranium	ug/L	08/15/2011	08/19/2011	5.5			0.067	EPA 3005/6020
Plutonium-238	pCi/L	08/15/2011	08/18/2011	0.00128	U	0.0025	0.0169	Pu-11-RC Modified
Plutonium-239/240	pCi/L	08/15/2011	08/18/2011	0.0051	U	0.00615	0.0235	Pu-11-RC Modified

U.S. DEPARTMENT OF ENERGY | Office of Legacy Management

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 1. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Americium-241	ASP-A-020	HASL-300, Am-05	HASL-300, Am-05-RC
Nitrate + Nitrite as N	WCH-A-019	EPA 353.2	EPA 353.2
Plutonium Isotopes	LMR-08	HASL-300, Pu-11	HASL-300, Pu-11-RC
Uranium	LMM-02	SW-846 3005A	SW-846 6020

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 2. Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
284074-001	A4 POND	Nitrate + Nitrite as N	J	Shipment temperature not compliant

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: 11084025 **Lab Code:** GEN **Validator:** Gretchen Baer **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 — All analyses were completed within the applicable holding times.
- ☑ Detection Limits — The reported detection limits are equal to or below contract requirements.
- ☐ Field/Trip Blanks
- ☐ Field Duplicates

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

Analyte	Method Type	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
			Int.	R^2	ICV	CCV	ICB	CCB								
Uranium	ICP/MS	08/19/2011	0.0000	1.0000	OK	OK	OK	OK	OK	99.5	101.0		15.0	95.0	8.0	92.5

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

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB						
NO2+NO3 as N	08/17/2011	0.003	1.0000	OK	OK	OK	OK	OK	106.00	100.0			

SAMPLE MANAGEMENT SYSTEM
Radiochemistry Data Validation Worksheet

RIN: 11084025 **Lab Code:** GEN **Date Due:** 8/30/2011

Matrix: Water **Site Code:** RFS02 **Date Completed:** 8/30/2011

Sample	Analyte	Date Analyzed	Result	Flag	Tracer %R	LCS %R	MS %R	Duplicate
LCS	Americium-241	08/18/2011			98.0	99.30		
LCSD	Americium-241	08/18/2011			87.0	94.40		0.60
Blank	Americium-241	08/18/2011	0.0012	U	95.0			
A4 POND	Americium-241	08/20/2011			66.0			
B5 POND	Americium-241	08/20/2011			65.0			
A4 POND	Plutonium-238	08/18/2011			83.0			
B5 POND	Plutonium-238	08/18/2011			80.0			
Blank	Plutonium-238	08/18/2011	-0.0044	U	94.0			
LCSD	Plutonium-238	08/18/2011						0.40
LCS	Plutonium-239/240	08/18/2011			97.3	104.00		
LCSD	Plutonium-239/240	08/18/2011			76.5	96.60		0.90
Blank	Plutonium-239+240	08/18/2011	-0.0044	U				