DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY JOINT MUNITIONS COMMAND
1 ROCK ISLAND ARSENAL
ROCK ISLAND, IL 61299-6000

REPLY TO
ATTENTION OF:

January 6, 2009

Safety/Rad Waste Directorate

Mr. James Cameron
Nuclear Regulatory Commission
Region III
Decommissioning Branch
2443 Warrenville Road
Lisle, Illinois 60532-4352

Mr. Cameron:

In accordance with Nuclear Regulatory Commission license number SUC-1380, we are providing water sample results from Lake City Army Ammunition Plant, Independence, Missouri. We took the samples on November 17, 2008. The U.S. Army Center for Health Promotion and Preventive Medicine analyzed the samples for uranium. None of the samples exceeded the limits set by Title 10, Code of Federal Regulations, part 20, appendix B.

Our point of contact is Mr. Gary Buckrop, AMSJM-SF, (309) 782-2969/0338/0880, electronic mail address rock-amsjm-sf.conus.army.mil.

Sincerely,

Bruce Elliott
Director, Safety/Radioactive
Waste Directorate

Enclosure

DEPARTMENT OF THE ARMY
US ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND MD 21010-5403

MCHB-TS-LI

18 DEC 2008

MEMORANDUM FOR US Army Operations Support Command, (AMSJM-SF/ Mr. Gary Buckrop), 1 Rock Island Arsenal, Rock Island, IL 61299-6000

SUBJECT: Directorate of Laboratory Sciences Final Analytical Report

1. We are enclosing one copy of the report.

2. Please contact us if this report or any of our services did not meet your needs or expectations.

3. Point of contact for additional information is Mr. Thomas Beegle, DSN 584-8244 or commercial (410) 436-8244.

Ronald J. Swatski

Encl

RONALD J. SWATSKI
Deputy Chief, Laboratory
Analytical Division

Readiness thru Health

U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE

DIRECTORATE OF LABORATORY SCIENCES (DLS)

5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5403
(410) 436-2208

FINAL ANALYTICAL REPORT

CLIENT: Mr. Gary Buckrop
U.S. Army Joint Munitions Command
1 Rock Island Arsenal
Rock Island IL 61299-6000

PROJECT SITE: LAKE CITY AAP
PROGRAM 79 SUBJONO: 1236
DLS PROFILE #: 36819 DLS WORK ORDER #: 32981
REPORT SERIAL NUMBER: 468960

REPORT RELEASE AUTHORIZATION:

Signature: Ronald J. Smith Date: 17 December 2008

FOR Timothy Attig, Chief, Laboratory Analytical Division

DLS Final Analytical Report, LAKE CITY AAP

Program 79, SUBJONO 1236, DLS WO# 32981, Report Serial No. 468960, 12/17/2008

CASE NARRATIVE

1. Provided are the results of analyzing seven water samples from Lake City AAP for uranium analysis. The samples were collected on 17 November 2008 and received in DLS in good condition on 19 November 2008 with a receipt temperature of 6.0 degrees C.

2. Sample Preparation: The samples were digested for uranium by EPA method 3020A, (Acid Digestion of Aqueous Samples for the Determination of Total Metals By GFAA and ICP-MS) on 10 December 2008. There is no separate preparation holding time requirement.

3. Sample Analysis:

a. The samples were analyzed for uranium-238 on 11 December 2008 by EPA Method 200.8, (Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Mass Spectrometry). All required holding times were met.

b. The results are in units of microcurie per milliliter (uCi/ml).

4. Quality Control:

a. Laboratory Control Samples (LCS), Pre-digestion and Post-digestion Duplicates, Pre-digestion Matrix Spikes and Pre-digestion Matrix Spike Duplicates (MS/MSD), Post-digestion Spikes and Reagent Blank were prepared for the analysis. During the analysis, an Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) was analyzed every tenth sample for instrument stability. All QC were within acceptance limits.

b. The method acceptance criteria for the ICV and CCV is 100% +/- 10% for uranium. The method acceptance criteria for the LCS is 100% +/- 20% for uranium. The method acceptance criteria for the MS and MSD is 100% +/- 30% for uranium. The acceptance criteria for all the duplicate analyses is +/- 20% relative percent difference (RPD).

5. For additional information on this report, please contact the laboratory at (410) 436-3983.

List of the report contents:

Section	Number of Pages
Transmittal Memo	1
Cover Letter	1
Case Narrative	1
Sample Summary	1
Analytical Data Report	2
Quality Control Data Report	5
Raw Data	
Terminology/Abbreviations	1

Report Point-of-Contact: Tom Beegle
Reviewer: ADC/RJS

List of all tests used:

DLS Procedure	Count
EPA 200.8	7

Number of samples included in the report, by matrix:

Matrix	Quantity
Water (Ground water)	7

Analyst(s):

Analyst Code	Analyst Name	Signature
0222	SPENCESC	

SAMPLE SUMMARY

Sorted by DLS ID

Field ID	DLS ID	Date Collected	Matrix
10-5	32981001	17-Nov-08	Water (Ground water)
10-6	32981002	17-Nov-08	Water (Ground water)
27-4	32981003	17-Nov-08	Water (Ground water)
27-5	32981004	17-Nov-08	Water (Ground water)
27-6	32981005	17-Nov-08	Water (Ground water)
27-7	32981006	17-Nov-08	Water (Ground water)
building 5	32981007	17-Nov-08	Water (Ground water)

ANALYTICAL DATA REPORT

(FORMAT OPTION 1)
Sorted by DLS ID

FINAL REPORT

Field ID: 10-5 **DLS ID:** 32981001

ANALYTE	RESULT/UNITS	METHOD REPORTING LIMIT	ANALYTICAL METHOD	ANALYST	DATE ANALYZED
Uranium	7.03E-10 uCi/mL	1.35E-10	EPA 200.8	0222	11-Dec-08

Field ID: 10-6 **DLS ID:** 32981002

ANALYTE	RESULT/UNITS	METHOD REPORTING LIMIT	ANALYTICAL METHOD	ANALYST	DATE ANALYZED
Uranium	1.43E-9 uCi/mL	1.35E-10	EPA 200.8	0222	11-Dec-08

Field ID: 27-4 **DLS ID:** 32981003

ANALYTE	RESULT/UNITS	METHOD REPORTING LIMIT	ANALYTICAL METHOD	ANALYST	DATE ANALYZED
Uranium	9.78E-10 uCi/mL	1.35E-10	EPA 200.8	0222	11-Dec-08

Field ID: 27-5 **DLS ID:** 32981004

ANALYTE	RESULT/UNITS	METHOD REPORTING LIMIT	ANALYTICAL METHOD	ANALYST	DATE ANALYZED
Uranium	1.25E-9 uCi/mL	1.35E-10	EPA 200.8	0222	11-Dec-08

Field ID: 27-6 **DLS ID:** 32981005

ANALYTE	RESULT/UNITS	METHOD REPORTING LIMIT	ANALYTICAL METHOD	ANALYST	DATE ANALYZED
Uranium	3.20E-10 uCi/mL	1.35E-10	EPA 200.8	0222	11-Dec-08

FINAL REPORT

Field ID: 27-7 **DLS ID:** 32981006

ANALYTE	RESULT/UNITS	METHOD REPORTING LIMIT	ANALYTICAL METHOD	ANALYST	DATE ANALYZED
Uranium	1.05E-9 uCi/mL	1.35E-10	EPA 200.8	0222	11-Dec-08

Field ID: building 5 **DLS ID:** 32981007

ANALYTE	RESULT/UNITS	METHOD REPORTING LIMIT	ANALYTICAL METHOD	ANALYST	DATE ANALYZED
Uranium	1.60E-10 uCi/mL	1.35E-10	EPA 200.8	0222	11-Dec-08

Report ID: HMA0189v1
Report Seq: 468716

Date Generated: 12/16/2008 7:57:5
Generated By: BEEGLETE

US Army Center for Health Promotion and Preventive Medicine
Directorate Of Laboratory Sciences (DLS)

Quality Control Report

DLS Workorder: 32981
Installation: LAKE CITY AAP
Project Officer: Gary Buckrop
Profile: 1236

Report ID: HMA0189v1
Report Seq: 468716
Workorder No: 32981
Installation: LAKE CITY AAP
Officer: Gary Buckrop
Subjono: 1236

Date Generated: 12/16/2008 7:57:59 AM
Generated By: BEEGLETE

US Army Center for Health Promotion and Preventive Medicine
Directorate Of Laboratory Sciences (DLS)
Instrument Spike Sample Report

Analyte	Date	Sample Number	Mx	Initial Result	Units	Sample Volume	Spike Solution Conc	Spike Volume	Spiked Result	% Rec.	Analyst	Method	Reviewer	Outside Limits	LCL	UCL
Uranium	12/11/2008	32981005 IS	GW	0.472	ug/L	10	1000	0.1	11.193	108.33	SPENCESC	EPA 200.8	BEEGLETE	☐	75	125

Report ID: HMA0189v1
Report Seq: 468716
Workorder No: 32981
Installation: LAKE CITY AAP
Officer: Gary Buckrop
Subjono: 1236

USACHPPM
Readiness thru Health

Date Generated: 12/16/2008 7:58:00 AM
Generated By: BEEGLETE

US Army Center for Health Promotion and Preventive Medicine
Directorate Of Laboratory Sciences (DLS)
Laboratory Control Samples Report

Analyte	Date	Sample Number	Mx	Observed	Units	Theoretical	Units	% Rec.	Analyst	Method	Reviewer	Outside Limits	LCL	UCL
Uranium	12/11/2008	09LCS1-75	GW	9.548	ug/L	10	ug/L	95.48	SPENCESC	EPA 200.8	BEEGLETE	☐	80	120

Report ID: HMA0189v1
Report Seq: 468716
Workorder No: 32981
Installation: LAKE CITY AAP
Officer: Gary Buckrop
Subjono: 1236

Date Generated: 12/16/2008 7:58:00 AM
Generated By: BEEGLETE

US Army Center for Health Promotion and Preventive Medicine
Directorate Of Laboratory Sciences (DLS)

Matrix Spike Duplicates Report

Analyte	Date	Sample Number	Mx	MS Result	Units	MSD Result	Units	% RPD	Recovery	Analyst	Method	Reviewer	Outside Limits	LCL	UCL
Uranium	12/11/2008	32981005 MSD	GW	11.779	ug/L	10.883	ug/L	7.91	104.11	SPENCESC	EPA 200.8	BEEGLETE	☐	70	130

Report ID: HMA0189v1
Report Seq: 468716
Workorder No: 32981
Installation: LAKE CITY AAP
Officer: Gary Buckrop
Subjono: 1236

Date Generated: 12/16/2008 7:58:02 AM
Generated By: BEEGLETE

US Army Center for Health Promotion and Preventive Medicine

Directorate Of Laboratory Sciences (DLS)

Matrix Spike Report

Analyte	Date	Sample Number	Mx	Initial Result	Units	MS Result	Units	Theoretical	Units	% Rec.	Analyst	Method	Reviewer	Outside Limits	LCL	UCL
Uranium	12/11/2008	32981005 MS	GW	0.472	ug/L	11.779	ug/L	10	ug/L	113.07	SPENCESC	EPA 200.8	BEEGLETE	☐	70	130

TERMINOLOGY/ABBREVIATIONS

Term	Description
MDA	The minimum detectable activity.
ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CFR	Code of Federal Regulations
OSHA	Occupational Safety and Health Administration
NIOSH	National Institute of Occupational Safety and Health
ACCURACY	A measure of how close a measured value is to a known true value. Accuracy is assessed by means of reference samples and percent recoveries of spiked samples.
ANALYSIS OF VARIANCE	A technique of statistical analysis by which the components of variation for different elements of the data set are separated and estimated.
BLANK	An artificial sample designed to monitor the introduction of artifacts or contamination into the analytical process. The blank is taken through the appropriate steps in the analytical process. Examples are: trip, field, equipment, and reagent blanks.
AIHA	American Industrial Hygiene Association