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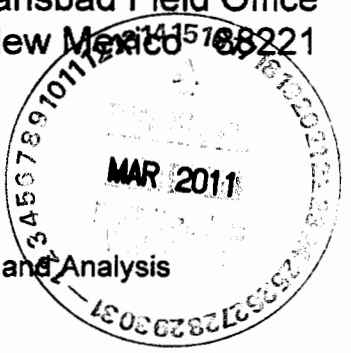
United States Government **Department of Energy**

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221



DATE: MAR 15 2011

REPLY TO ATTN OF: CBFO:OQA:MPN:MAG:11-0484:UFC 2300.00

SUBJECT: Surveillance S-11-14 of the ORNL/CCP Remote-Handled Waste Sampling and Analysis

TO: Mr. William (Bill) McMillan, ORNL

On February 22, 2011, the Carlsbad Field Office (CBFO) conducted Surveillance S-11-14 of the Oak Ridge National Laboratory Central Characterization Project (ORNL/CCP) Remote-Handled Waste Sampling and Analysis. The surveillance report is attached.

The surveillance team concluded that the ORNL/CCP technical and quality assurance programs for the processes evaluated were adequate, satisfactorily implemented, and effective.

If you have any questions concerning this audit, please contact me at (575) 234-7483.

Sincerely,

Martin P. Navarrete
Acting Director, Office of Quality Assurance

Attachment

cc: w/attachment

J. R. Stroble, CBFO	*ED	R. Joglekar, EPA	ED
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F. Heaker, ORNL	ED	G. White, CTAC	ED
T. Peake, EPA	ED	WIPP Operating Record	ED
M. Eagle, EPA	ED	CBFO QA File	
E. Feltcorn, EPA	ED	CBFO M&RC	

*ED denotes electronic distribution

CBFO SURVEILLANCE REPORT

Surveillance Number: S-11-14 **Date of Surveillance:** February 22, 2011

Surveillance Title: Oak Ridge National Laboratory Central Characterization Project (ORNL/CCP) Remote-handled Waste Sampling and Analysis

Organization Surveilled: ORNL/CCP

Surveillance Team:

Tamara D. Bowden	Surveillance Team Leader, CBFO Technical Assistance Contractor (CTAC)/Auditor
Jim Oliver	Technical Specialist, CTAC

Surveillance Scope:

The scope of the surveillance was to observe and evaluate the remote-handled (RH) Summary Category Group S5000 debris waste sampling and analysis processes being used at the ORNL/CCP in support of characterization of waste containers to be shipped to the Waste Isolation Pilot Plant (WIPP).

Surveillance Purpose:

This surveillance was intended to provide assurance that ORNL/CCP RH waste sampling and analysis operations were adequate, satisfactorily implemented, and effective. The surveillance team focused on evaluation of sample collection, sample custody, sample preparation, and sample analysis so that analysis results may be used to develop scaling factors for the dose-to-curie process.

Activities Evaluated:

RH Waste Sampling – The surveillance team interviewed operations personnel and reviewed operating procedures prior to the commencement of any sampling activities. The actual sample collection materials ("Q-tips," 350 ml metal cans, plastic bags, plastic sheeting, tamper indicating devices (TIDs), and labeling) were inspected prior to use. A Health Physics survey report was presented as part of the evidence to demonstrate that sample collection equipment was free of contamination prior to use. Sample collection materials were loaded into the hot cell facility (Building 3525 contains a large horseshoe arrangement of hot cell windows with remote workstations) far from the actual area of sampling to minimize the chances for contamination and to provide an area where the background radiation level was low enough to allow for accurate measurement of the radiation dose from the collected samples. (The analysis lab could only accept samples if their combined dose was low enough.)

The surveillance team observed the collection of smear samples, including the selection of materials to be sampled, and the identification of the most appropriate and representative surfaces to sample. After collection, the surveillance team observed proper documentation of the sample collection activities, proper use of the TIDs, and proper chain-of-custody (COC).

The surveillance team observed the collection of sample ORO2221101. This sample is the composite of three smears (01, 03, and 045) collected from a saw blade, a motor housing (for the saw), and the saw base plate respectively.

Copies of all "in process" documents were reviewed to verify proper documentation of each sample and the initiation of appropriate COC forms. For the observed sample, COC number COCORRH1101 was assigned.

RH Sample Analysis – The surveillance team interviewed the analytical laboratory manager about the various types of analyses to be performed on each sample. Specific questions focused on the methodology and technical adequacy of the approaches used to identify all of the measurable and reportable radioactive constituents required to meet CCP needs.

The following analysis methods, policies, and practices were reviewed:

- EPA 600/900.0 Gross Alpha and Gross Beta Activity in Drinking Water
- EPA 600/901.1 Gamma Emitting Radionuclides in Drinking Water
- EPA 600/905.0 Radioactive Strontium in Drinking Water
- Inductively Coupled Plasma Mass-Spectrometry
- Various Preparations for Solid and Organic Matrices
- Sample Management for the Radioactive Materials Analytical Laboratory
- Work Policies and Practices for the Radioactive Materials Analytical Laboratory

The surveillance team was not able to review data that had been through all analyses and necessary review steps because this was the initiation of RH waste sampling and analysis in this facility and no completed data packages were available for review.

Overall, the surveillance team determined RH Waste Sampling and Analysis activities were adequate, satisfactorily implemented, and effective.

Quality Assurance – The surveillance team found that ORNL/CCP personnel are following the proper protocols in sample collection and the information collected to this point is adequate. The results are properly reported with the correct number of significant figures. Overall, the ORNL/CCP program operations were deemed to be satisfactory, and procedures were effectively implemented.

Governing Documents/Requirements:

Evaluation of overall program adequacy and effectiveness of ORNL/CCP documents was based on the current revisions of the following documents:

- DOE/CBFO-94-1012, Revision 11, *CBFO Quality Assurance Program Document* (QAPD)
- NM4890139088-TSDF, Waste Isolation Pilot Plant Hazardous Waste Facility Permit, the New Mexico Environment Department
- DOE/WIPP-02-3122, Revision 7.0, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC)
- DOE/WIPP-02-3214, Revision 1, *Remote-Handled TRU Waste Characterization Program Implementation Plan* (WCPIP)
- CCP-AK-ORNL-515, Revision 0, *CCP Sampling and Analysis Plan for ORNL Building 3525 Remote-Handled Debris Waste – Waste Stream: OR-RF-RH-HET*
- CCP-PO-001, Revision 19, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, Revision 25, *CCP Transuranic Waste Certification Plan*
- CCP-TP-504, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*
- CCP-TP-512, Revision 4, *CCP Remote-Handled Waste Sampling*
- CCP-QP-002, Revision 30, *CCP Training and Qualification Plan*
- CCP-QP-005, Revision 19, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, Revision 17, *CCP Records Management*
- CCP-QP-011, Revision 10, *CCP Laboratory Logbooks*
- CCP-QP-016, Revision 15, *CCP Control of Measuring and Testing Equipment*

Surveillance Results:

The results of the surveillance indicate that the ORNL/CCP activities related to RH Waste Sampling and Analysis operations are adequate, satisfactorily implemented, and effective.

Surveillance Team Leader: Tamara D. Bowden Date: 3/15/11
Tamara D. Bowden, CTAC

CBFO QA Director Approval: Martin P. Navarrete Date: 3-15-11
Martin P. Navarrete, CBFO
Acting Director, Quality Assurance