

United States Government

Department of Energy

# memorandum

Carlsbad Area Office  
Carlsbad, New Mexico 88221

DATE: February 7, 2000

REPLY TO  
ATTN OF: CAO:QA:SAV:00-0227 UFC 2300.00

SUBJECT: Issuance of Corrective Action Reports (CARs); 00-012 through 00-016

TO: Mark S. French, RL

The Carlsbad Area Office (CAO) performed Audit A-00-05 of the Hanford site on January 24-28, 2000. The audit team identified five (5) conditions adverse to quality, which have been documented in CARs 00-012 through 00-016.

Please document on the attached CAR Continuation Sheet your proposed corrective actions and a schedule for completion and forward to me prior to the response due date identified in CAR Block 14.

If you have any questions or comments, please contact me at (505) 234-7423.

*Lisa Chism*  
for Samuel A. Vega  
Quality Assurance Manager

## Attachments

### cc w/attachments:

L. Chism, CAO  
J. Schuetz, CTAC  
S. Calvert, CTAC  
P. Crane, RL  
J. Maupin, WMH  
M. Eagle, EPA  
S. Monroe, EPA  
✓ S. Zappe, NMED  
B. Walker, EEG  
S. Kouba, WID  
W. Most, WID  
D. Winter, DNFSB

FEB 2000  
RECEIVED

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# CORRECTIVE ACTION REPORT

1. CAR No.: 00-012	2. Activity Report No.: A-00-05	3. Page <u>1</u> of <u>2</u>								
4. Controlling Document: WMH-400, Section 1.3.1,	5. CAO Assessment Team Leader: Samuel Vega									
6. Responsible Organization: : DOE-RL, TRU Project	7. CAQ Was Discussed With: Paul Crane, Mark French									
8. Requirement that was violated:  See Continuation Sheet										
9. Condition Adverse to Quality:  See Continuation Sheet										
10. Suggested Actions (Optional):  										
11a. Significant CAQ (Yes or No): Yes 11b. Work Suspension Recommended (Yes or No): No 11c. RCRA-Related (Yes or No): Yes										
12. Types of Actions: Remedial: <u>X</u> Investigative: <u>X</u> Root Cause: <u>X</u> Actions to Preclude Recurrence: <u>X</u>										
13. CAR Initiator: <u>Steven D. Calvert/Kerry Watson</u> Date: <u>February 1, 2000</u>										
14. Response Due Date: <u>March 1, 2000</u> Corrective Action Plan Required: YES										
15. Concurrence: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <u>Lea Chism</u>  <small>Assessment Team Leader</small> </td> <td style="width: 15%; vertical-align: top;"> <u>2/7/00</u>  <small>Date</small> </td> <td style="width: 33%; vertical-align: top;"> <u>N/A</u>  <small>Responsible Assistant Manager</small> </td> <td style="width: 15%; vertical-align: top;">   <small>Date</small> </td> </tr> <tr> <td style="vertical-align: top;"> <u>Lea Chism</u>  <small>Quality Assurance Manager</small> </td> <td style="vertical-align: top;"> <u>2/7/00</u>  <small>Date</small> </td> <td></td> <td></td> </tr> </table>			<u>Lea Chism</u> <small>Assessment Team Leader</small>	<u>2/7/00</u> <small>Date</small>	<u>N/A</u> <small>Responsible Assistant Manager</small>	 <small>Date</small>	<u>Lea Chism</u> <small>Quality Assurance Manager</small>	<u>2/7/00</u> <small>Date</small>		
<u>Lea Chism</u> <small>Assessment Team Leader</small>	<u>2/7/00</u> <small>Date</small>	<u>N/A</u> <small>Responsible Assistant Manager</small>	 <small>Date</small>							
<u>Lea Chism</u> <small>Quality Assurance Manager</small>	<u>2/7/00</u> <small>Date</small>									
16. Corrective Actions Proposed by the Responsible Organization: Use CAR Continuation Sheet										
17. Acceptance of Proposed Corrective Actions:  <table style="width: 100%; border: none;"> <tr> <td style="width: 60%; border-top: 1px solid black;">   </td> <td style="width: 40%; border-top: 1px solid black;">   </td> </tr> <tr> <td style="text-align: center;"><small>Assessment Team Leader</small></td> <td style="text-align: center;"><small>Date</small></td> </tr> </table>			 	 	<small>Assessment Team Leader</small>	<small>Date</small>				
<small>Assessment Team Leader</small>	<small>Date</small>									
1. Verification of Corrective Action Completion: (Use CAR Continuation Sheet)										
19a. Verified By: _____										
19b. Trend Cause Code: _____										
21. Closure: _____ <div style="display: flex; justify-content: space-between; width: 100%;"> <span><small>Quality Assurance Manager</small></span> <span><small>Date</small></span> </div>										

# CAR CORRECTIVE ACTION REPORT

(continuation sheet)

1. CAR No.: 00-012

2. Activity No.: A-00-05

3. Page 2 of 2

## Block # 8. Requirement that was Violated:

WMH-400, Section 1.3.1, Part 2.3 States: Corrective action plans are required for all significant conditions adverse to quality and any violation of the WIPP Hazardous Waste Facility Permit.

WMH-400, Section 1.3.1, Part 4.2 States: For significant conditions adverse to quality, prepare a written corrective action plan describing [actions to be taken], and identify the causes of conditions adverse to quality. Item reliability, process implementation, and other relevant information also will be reviewed and the data analyzed to identify items and processes needing improvement. Corrective action plans shall address the following:

- The assessment of the extent and impact of the significant condition adverse to quality (investigative actions).
- The actions to resolve the initial problem (remedial actions).
- The determination of the root cause of the problem.
- The actions taken to preclude recurrence of the problem.
- The expected completion dates and responsibilities for the required actions.

## Block # 9. Condition Adverse to Quality:

- Corrective Action Reports (TRU-SPO-99CAR-080, 081, 082, and 083) for characterization data generated prior to the effective date of the waste permit were closed prior to the completion of the corrective actions.
- The Corrective Action Reports TRU-SPO-99CAR-081 and 082 required the following actions:
  - Complete an evaluation of the WIPP Permit requirements for headspace gas sampling activities in comparison to those in place prior to the effective date of the permit.
  - Based on the comparison, complete an evaluation of the usability of the headspace gas sampling data obtained prior to the effective date of the WIPP Permit.
- The conclusion derived from the actions to correct the deficiencies was that the headspace gas sampling method used prior to the effective date of the WIPP Permit was adequate to support headspace gas characterization for disposal at the WIPP. This conclusion does not satisfy the condition that the Hanford TRU Waste Project must implement the applicable requirements of the WIPP Permit Waste Analysis Plan before Hanford TRU Waste can be disposed of in the WIPP.
- Qualification of existing data for headspace gas, nondestructive examination, and visual examination has not been completed. Generation level reviews of the supplementary data have not been performed and the project level data verification and validation process has not been completed.
- The corrective action plans for the Corrective Action Reports (TRU-SPO-99CAR-080, 081, 082, and 083) were lacking actions to address the identified concerns. The corrective action plans did not require training of the individuals performing the reviews to the requirements of the WIPP permit. The corrective action plans did not address generation level reviews or project level data verification and validation activities.

# CORRECTIVE ACTION REPORT

1. CAR No.: 00-013	2. Activity Report No.: A-00-05	3. Page <u>1</u> of <u>2</u>
4. Controlling Document: See Continuation Sheet		5. CAO Assessment Team Leader: Samuel Vega
6. Responsible Organization: : DOE-RL, TRU Project		7. CAQ Was Discussed With: Craig Wills, Paul Crane, Mark French
8. Requirement that was violated: See Continuation Sheet		
9. Condition Adverse to Quality: See Continuation Sheet		
10. Suggested Actions (Optional):		
11a. Significant CAQ (Yes or No): Yes 11b. Work Suspension Recommended (Yes or No): No 11c. RCRA-Related (Yes or No): Yes		
12. Types of Actions: Remedial: <u>X</u> Investigative: <u>X</u> Root Cause: <u>X</u> Actions to Preclude Recurrence: <u>X</u>		
13. CAR Initiator: <u>D. Kimbro/Ken Coop</u> Date: <u>February 1, 2000</u>		
14. Response Due Date: <u>March 1, 2000</u>		Corrective Action Plan Required: YES
15. Concurrence: <u>[Signature]</u> <u>2/7/00</u> for Assessment Team Leader Date		<u>N/A</u> Responsible Assistant Manager Date
<u>[Signature]</u> <u>2/7/00</u> QA Quality Assurance Manager Date		
16. Corrective Actions Proposed by the Responsible Organization: Use CAR Continuation Sheet		
17. Acceptance of Proposed Corrective Actions:		
_____ Assessment Team Leader Date		
18. Verification of Corrective Action Completion: (Use CAR Continuation Sheet)		
19a. Verified By: _____		
19b. Trend Cause Code: _____		
21. Closure: _____		
Quality Assurance Manager		Date

# CAO CORRECTIVE ACTION REPORT

(continuation sheet)

1. CAR No.: 00-013

2. Activity No.: A-00-05

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## Block # 8. Requirement that was Violated:

1. HNF-2600, Section E-4, states, Control charts are used to track trends in the parameters measured in the performance check. HNF-2600, Section E-8, states, Control chart data or control charts are included in the testing batch data report.
2. WMH-400, Section 7.1.1, Paragraph 4.2.2, states, DQOs are qualitative and quantitative statements that clarify project objectives and QAOs, define the appropriate type of data, and specify tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions.
3. HNF-2600, Section E-5, states, A complete verification of calibration for at least one counting geometry and sample matrix combination is repeated annually.
4. WMH-350, Section 2.2, Paragraph 4.0, states, Each TRU waste container assayed by WRAP is accompanied by an acceptable knowledge (AK) data package, which contains an isotopic ratio profile of the contents. This profile is an estimate based on a number of data sources, which may include process knowledge, assays, and mass spectroscopy (MS) measurements taken at the point of waste origin. Since the WRAP NDA equipment is used primarily to quantify certain key radionuclides, knowledge of these isotopic ratios is required to calculate quantities of additional nondetected, but reportable radionuclides.
5. WMH-350, Section 2.3, Paragraph 4.0, (step 13), states, Complete an independent technical reviewer checklist (Attachment 6) to document the review. (procedure steps 13 through 15)

## Block # 9. Condition Adverse to Quality:

1. The WAC (rev. 7) and Hanford Waste Certification Plan require that energy, resolution and efficiency be plotted on control charts, compared to limits and reported as part of the testing batch data. This is only being done for the efficiency, not for energy and resolution.
2. The AK process includes data confirmation/reconciliation, but insufficient information is available to assess the effectiveness of this process. This information is part of the process to assess whether newly derived NDA isotopic information corresponds to AK isotopics.
3. The process for validation of calibration has not been proceduralized to include the daily QC checks that are used to support the required annual verification/validation of calibration.
4. Plutonium isotopic distribution information is provided only from AK documentation. The AK documentation comes from PFP operations. No confirmation of PU isotopic distribution is made, and no documentation is available other than the AK information.
5. There is no documented comment resolution between the independent technical reviewer and the NDA analyst for the spread sheet calculations. The procedure only allows the Independent Technical Reviewer to initiate an NCR if there is incorrect information. The actual practice suggests that the reviewer and the analyst resolve comments made during the IT review.

# CORRECTIVE ACTION REPORT

1. CAR No.: 00-014	2. Activity Report No.: A-00-05	3. Page <u>1</u> of <u>2</u>
4. Controlling Document: WAP B3-1, and LA-523-410, Rev. C-0		5. CAO Assessment Team Leader: Samuel Vega
6. Responsible Organization: DOE-RL, TRU Project		7. CAQ Was Discussed With: Kirsten Meier, Paul Crane, Mark French
8. Requirement that was violated: See Continuation Sheet		
9. Condition(s) Adverse to Quality: See Continuation Sheet		
10. Suggested Actions (Optional):		
11a. Significant CAQ (Yes or No): Yes		
11b. Work Suspension Recommended (Yes or No): No		
11c. RCRA-Related (Yes or No): Yes		
12. Types of Actions: Remedial: <u>X</u> Investigative: <u>X</u> Root Cause: <u>X</u> Actions to Preclude Recurrence: <u>X</u>		
13. CAR Initiator: <u>B. J. Verret</u> Date: <u>February 1, 2000</u>		
14. Response Due Date: <u>March 1, 2000</u>		Corrective Action Plan Required: <u>YES</u>
15. Concurrence: <u>Lea Chism</u> <u>2/7/00</u> for Assessment Team Leader Date		<u>N/A</u> _____ Responsible Assistant Manager Date
<u>Lea Chism</u> <u>2/7/00</u> for Quality Assurance Manager Date		
16. Corrective Actions Proposed by the Responsible Organization: <u>Use CAR Continuation Sheet</u>		
17. Acceptance of Proposed Corrective Actions: _____ Assessment Team Leader Date		
18. Verification of Corrective Action Completion: (Use CAR Continuation Sheet)		
19a. Verified By: _____		
19b. Trend Cause Code: _____		
21. Closure: _____ Quality Assurance Manager Date		

# CAR CORRECTIVE ACTION REPORT

(continuation sheet)

1. CAR No.: 00-014

2. Activity No.: A-00-05

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## Block # 8 Requirement that was violated:

1. WAP B3-1 paragraph/section states in part: "In accordance with SW-846 convention, identification of compounds detected by gas chromatography/mass spectrometry methods that are not on the list of target analytes shall be reported. Headspace gas, volatile analysis (TCLP/Totals), and semivolatile (TCLP/Totals) shall be subject to tentatively identified compound (TIC) reporting."
2. WAP B3-1 also states in part: "TICs that meet the SW-846 identification criteria, are detected in 25 percent of all samples from a given waste stream, and that appear in 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII list will be compared to acceptable knowledge data to determine if the TIC is a listed waste in the waste stream. TICs identified through headspace gas analyses that meet the Appendix VIII list criteria and the 25 percent identification criteria for a waste stream will be added to the headspace gas waste stream target list regardless of the hazardous waste listing associated with the waste stream."

## Block # 9 Condition(s) Adverse to Quality:

1. Procedure LA-523-410, para.11.2.5 states in part that; "Only TICs with a concentration equal or higher than the PRQL of the non-polar target compounds (10 ppmv) are reported." The Permit does not include a lower cut-off level after solid identification of TICs.
2. The laboratory procedures do not address how to add a TIC to the analyte list after being identified in 25% of samples.

# CORRECTIVE ACTION REPORT

1. CAR No.: 00-015	2. Activity Report No.: A-00-05	3. Page <u>1</u> of <u>1</u>
4. Controlling Document: WMH-400, Section 2.1.6	5. CAO Assessment Team Leader: Samuel Vega	
6. Responsible Organization: : DOE-RL, TRU Project	7. CAQ Was Discussed With: Paul Crane, Mark French	
<b>8. Requirement that was violated:</b>  WMH-400, Section 2.1.6, Part 4.2, Step 8 states: Resolve comments with reviewers, document disposition on the Procedure Review and Approval Form (PRAF) and obtain reviewer signature, if needed.		
<b>9. Condition Adverse to Quality:</b>  Comment resolution has not been documented on the PRAF for laboratory analysis procedures.		
<b>10. Suggested Actions (Optional):</b>  _____ _____ _____		
11a. Significant CAQ (Yes or No): No 11b. Work Suspension Recommended (Yes or No): No 11c. RCRA-Related (Yes or No): No		
12. Types of Actions: Remedial: <input checked="" type="checkbox"/> Investigative: _____ Root Cause: _____ Actions to Preclude Recurrence: _____		
13. CAR Initiator: <u>Mario Chavez</u> Date: <u>February 1, 2000</u>		
14. Response Due Date: <u>March 1, 2000</u> Corrective Action Plan Required: YES		
15. Concurrence: <u>Joe Chism</u> <u>2/7/00</u> <u>N/A</u> Assessment Team Leader Date Responsible Assistant Manager Date <u>N/A</u> _____ Quality Assurance Manager Date		
16. Corrective Actions Proposed by the Responsible Organization: Use CAR Continuation Sheet		
17. Acceptance of Proposed Corrective Actions: _____ Assessment Team Leader Date		
18. Verification of Corrective Action Completion: (Use CAR Continuation Sheet)		
19a. Verified By: _____		
19b. Trend Cause Code: _____		
21. Closure: _____ Quality Assurance Manager Date		



# CORRECTIVE ACTION REPORT

1. CAR No.: 00-016	2. Activity Report No.: A-00-05	3. Page <u>1</u> of <u>1</u>
4. Controlling Document: NQA-1, 1989		5. CAO Assessment Team Leader: Samuel Vega
6. Responsible Organization: : DOE-RL, TRU Project		7. CAQ Was Discussed With: Paul Crane, Mark French, James Maupin
<p>8. Requirement that was violated:</p> <p>NQA-1, criterion 2 requires that the program shall provide for indoctrination and training, as necessary, of personnel performing activities affecting quality to assure that suitable proficiency is achieved and maintained. Management of those organizations implementing the quality assurance program shall regularly assess the adequacy of that part of the program for which they are responsible.</p>		
<p>9. Condition Adverse to Quality:</p> <p>Training files for inspection and test personnel revealed that individuals acting in this capacity have been certified by Fluor Daniel. However, TRU Program management has not evaluated the Fluor Daniel certification of inspection and test personnel for equivalency with Hanford Procedure WMH-400, section 1.2.2.</p>		
<p>10. Suggested Actions (Optional):</p>		
<p>11a. Significant CAQ (Yes or No): No</p> <p>11b. Work Suspension Recommended (Yes or No): No</p> <p>11c. RCRA-Related (Yes or No): No</p>		
<p>12. Types of Actions: Remedial: <u>X</u> Investigative: <u>   </u> Root Cause: <u>   </u> Actions to Preclude Recurrence: <u>   </u></p>		
13. CAR Initiator: <u>C. Wright</u>		Date: <u>February 1, 2000</u>
14. Response Due Date: <u>March 1, 2000</u>		Corrective Action Plan Required: <u>YES</u>
<p>15. Concurrence: <u>[Signature]</u> <u>2/7/00</u></p> <p>CAO Assessment Team Leader Date</p>		<p><u>N/A</u></p> <p>Responsible Assistant Manager Date</p>
<p><u>N/A</u></p> <p>Quality Assurance Manager Date</p>		
<p>16. Corrective Actions Proposed by the Responsible Organization: Use CAR Continuation Sheet</p>		
<p>17. Acceptance of Proposed Corrective Actions:</p> <p>_____ Date _____</p> <p>Assessment Team Leader</p>		
<p>18. Verification of Corrective Action Completion: (Use CAR Continuation Sheet)</p>		
<p>19a. Verified By: _____</p>		
<p>19b. Trend Cause Code: _____</p>		
<p>21. Closure: _____</p> <p>Quality Assurance Manager Date</p>		