

**ENVIROCARE** OF UTAH, INC.  
THE SAFE ALTERNATIVE

June 9, 1997

Mr. Joseph J. Holonich, Chief  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Materials Safety  
and Safeguards  
U.S. Nuclear Regulatory Commission  
M S T-7J9  
11545 Rockville Pike  
Washington, DC 20555-0001

Re: 11e.(2) Groundwater Monitoring, Compliance Monitoring Plan  
Response to Comments for Amendment of License Number SMC1559,  
Docket No. 40-8989

Dear Mr. Holonich:

This letter is in response to your acceptance review letter dated April 23, 1997. In your acceptance review of Envirocare's request for amendment of license SMC-1559, you identified four deficiencies. Our consultant, Adrian Brown (ABC) has responded to the four identified deficiencies in the attached letter.

ABC's response to the fourth deficiency identified by NRC in the April 23, 1997, may not be acceptable to the NRC. NRC's requested additional information describing the improvements in AWAL's analytical procedures to justify the claim that these improvements caused the observed general increase in concentrations of As and Se over time. Earlier communications between ABC and AWAL indicated that improvements were made, but more recent communications do not suggest that the improvements increased concentrations, but instead, provided better quality control.

Envirocare evaluated NRC's recommendation to use appropriate correction factors for the As and Se background concentrations to account for the change in analytical laboratory contractor and analytical method. Envirocare has determined that using the correction factors would be acceptable for the arsenic background concentrations. However, due to the large number of non-detectable selenium concentrations using AWAL, it is not possible to accurately correlate the selenium concentrations between the two laboratories.

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June 9, 1997

NRC-Compliance Plan

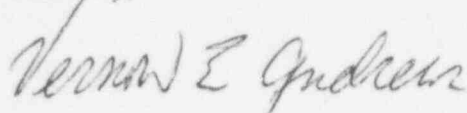
**ENVIROCARE**

It does not appear, based on recent data generated using both methods, that there will ever be sufficient selenium detections using the GFAA method and a correlation using the selenium data will ever be feasible. Envirocare, therefore, recommends that the MSAI data be used to generate the background levels for selenium concentrations in groundwater.

In addition, in our amendment request of April 3, 1997, we submitted two updated tables, Table S-1 with background concentrations and Table STD-1 with site-specific background standards. Table STD-1 was not updated with the new Table S-1 standards for arsenic. We have included an updated version of Table STD-1 for your approval and apologize for any inconvenience/confusion this may have caused.

Should you have any questions regarding these responses, please feel free to contact me at (801) 532-1330 or Dan Shrum at (801) 532-0920.

Sincerely,



Vernon Andrews  
Corporate RSO

enclosures

cc: Bill Sinclair  
Region IV NRC  
Dr. David Turner  
Loren Morton

May 20, 1997



**AdrianBrown**

• Consulting • Remediation • Environmental Services

Mr. Dan Shrum  
Envirocare of Utah  
46 West Broadway, Suite 240  
Salt Lake City, UT 84101

***RE: NRC Acceptance Review***

Dear Dan:

In a letter dated April 23, 1997, the NRC identified four deficiencies in the report from our office entitled "Evaluation of Analytical Procedures for Groundwater Monitoring". I am writing to you to provide informational support to respond to those identified deficiencies and will address them in the same order as presented by the NRC.

- 1) The analytical technique used by Casa del Sol Labs (CDS) is a hydride generation/graphite furnace technique, much like the one used by Mountain States (MS) labs. The difference between CDS and MS is that CDS is reported to provide for greater assurance of complete reaction of arsenic (or selenium) during the sample preparation stage (hydride generation) prior to the actual analytical event using the graphite furnace. The procedure used by CDS monitors the extent of reaction during sample preparation and provides for additional reagents to be added until the reaction is complete. This approach is reported to provide lower detection limits and better reproducibility. MS may also take advantage of a similar approach, which is one reason that the hydride generation/graphite furnace analysis of arsenic and selenium can be so analyst dependent.
- 2) Groundwater samples taken as splits and sent to CDS, MS and America West Analytical Labs (AWAL) were collected on March 11, 1997 by Mr. Jeff Low of Envirocare. These samples are the ones described in Table 2 of the report. The data reported in Table 5 describe laboratory prepared knowns, not groundwater samples.
- 3) The request to amend Sec. 11.1(g) of License No. SMC-1559 is contained in the cover letter of the report, written by Mr. Ken Alkema. The request made by the NRC calls for greater specificity about the minimum and maximum samples Envirocare proposes to take to verify potential aberrations observed for an original sample. As implied in Mr. Alkema's text, the minimum would be identical to the present requirements. The proposed maximum number is not stated. However, it does not seem to me to be a point of concern to identify the maximum as statistical reliability can only be increased with an increase in the number of samples taken.

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Mr. Dan Shrum

May 20, 1997

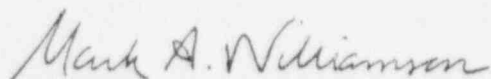
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- 4) Details are not available regarding any improvement in analytical technique by AWAL during collection of background data. I was informed by Ms. Diane Baker of AWAL during a telephone conversation (March 20, 1997) that such an improvement had taken place. Subsequently, Ms. Baker has denied making such an indication to me and, therefore, I am not able to provide any clarification.

I hope the brief discussion above will provide the clarity requested by the NRC. I am available at your convenience to discuss any point contained herein.

Sincerely,

Adrian Brown Consultants, Inc.

A handwritten signature in cursive script that reads "Mark A. Williamson".

Mark A. Williamson, Ph.D  
Senior Geochemist

Table STD-1  
NRC-Approved Site-Specific Standards  
Envirocare of Utah, Inc.  
April 4, 1997

Well ID:	Point of Compliance Monitoring Wells											
	GW-19A	GW-20	GW-24	GW-25	GW-26	GW-27	GW-28	GW-29	GW-57	GW-58	GW-60	GW-63
<b>Constituent</b>												
<u>Inorganic</u>												
<u>Constituents</u>												
<u>(mg/L)</u>												
Arsenic <sup>1,2</sup>	0.052	0.052	0.050	0.168	0.311	0.134	0.130	0.050	0.054	0.208	0.050	0.053
<u>Radioactive</u>												
<u>Constituents</u>												
<u>(pCi/L)</u>												
None												
<u>Organic</u>												
<u>Constituents</u>												
<u>(µg/L)</u>												
None												

1 Site-specific standard for arsenic in different Point of Compliance (POC) wells was established as the higher of (a) 0.05 mg/L, which is the value for maximum concentration for groundwater protection provided for the constituent in 10 CFR Part 40, Table 5C Appendix A; and (b) approved background concentration in Table S-1 (Revision 2, date April 3, 1997)

2 Based on the use of hydride generation atomic absorption spectrophotometry. Replacement procedures used in the future must demonstrate equivalence