

**ENVIRONMENTAL  
RESTORATION  
PROJECT**

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Environmental Restoration (ER) Project, MS M992  
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Date: January 24, 2002  
Refer to: ER2002-0005



Mr. John Young, Corrective Action Project Leader  
Permits Management Program  
NMED – Hazardous Waste Bureau  
2905 Rodeo Park Drive East  
Building 1  
Santa Fe, NM 87505-6303

**SUBJECT: DATA SUPPLEMENT TO THE SEPTEMBER 27, 2001 VOLUNTARY  
CORRECTIVE ACTION (VCA) REPORT FOR POTENTIAL RELEASE  
SITE (PRS) 3-056(c)**

Dear Mr. Young:

This letter is a response to New Mexico Environment Department's (NMED) request for additional sampling made by Ms. Neelam Dhawan during an August 9, 2001 meeting regarding PRS 03-056(c). This letter and attachments are a Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Project's supplement to the VCA Completion Report for PRS 3-056(c), dated September 27, 2001 (ER2001-0796).

The purpose of the sampling and analysis was to determine if the concentration of arsenic for a single soil verification sample is accurate and representative of site conditions or if the reported result is an anomaly or analytical laboratory error. Of the 21 samples analyzed for the target analyte list (TAL) metals only one sample (LANL Sample ID RE-03-01-0010) showed arsenic levels greater than background values for arsenic in soils. The background value for soils is 8.17 mg/kg and the concentration reported at the site in the VCA was 110 mg/kg. This value exceeded the background value and the other sampling results by more than an order of magnitude. To resolve the issue of whether the sample was accurate and representative, additional soil samples were collected and analyzed on August 10, 2001 by the Environmental Protection Agency (EPA) Region 6 sampling team. Samples were collected at two locations, one at the same location (Location ID 03-14361) that had the elevated arsenic concentration (EPA sample No. PRS-3-056[c]) and another at a location 3 ft 7 in. to the northeast (EPA sample No. 3-056AA) of the first location (see Attachment A to this letter for photographs of the event).



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The samples collected by EPA personnel at Location ID 03-14361 included a duplicate (EPA sample No. PRS-3D-056) and a split sample relinquished to LANL and submitted by the LANL ER Project for fixed laboratory TAL Metal analyses (LANL sample ID RE03-01-0134). The full TAL metal suite analytical results of the samples are included in this letter as Attachment B. For arsenic, the results at Location ID 03-14361 were 0.94 mg/kg (LANL Sample ID RE03-01-0134), 2.63 mg/kg (EPA sample No PRS-3-056[c]), 2.93 mg/kg (EPA duplicate sample No. PRS-3D-056), and 2.73 mg/kg (EPA sample to the northeast No. 3-056AA). The mean value for these samples is 2.30 mg/kg. Data from the supplemental soils analyses clearly show that the arsenic concentration first reported in the VCA report for sample Location ID 03-14361 are in error and that the assumption stated in the VCA, of considering this data as an outlier, is correct.

The following table is a comparison of the inorganic chemical results from the original sample at Location ID 03-14361, and the analytical results from the August 10, 2001 re-sampling effort.

<i>Inorganic Chemicals</i>	LANL Sample ID RE-03-01-0010		LANL Sample ID RE-03-01-0134		EPA Region 6 Sample No. PRS-3-056(C)	
	Analytical Result (mg/kg)	Qualifier	Analytical Result (mg/kg)	Qualifier	Analytical Result (mg/kg)	Qualifier
Aluminum	4300		4770		5300	
Barium	120	J-	27.3		29.8	
Beryllium	2.9	J-	0.37	J	0.38	
Calcium	1000		1480		1340	
Chromium,	14	J-	4.9		4.74	
Cobalt	29	J-	1.5	U	1.9	
Copper	15	J-	3.5		3.61	
Iron	9000		9990		9890	
Magnesium	850		1020		1000	N
Manganese	230	J-	96.9		115	
Nickel	30	J-	1.5	U	3.64	
Potassium	770		958		819	EN
Silver	2.2	J-	0.52	U	0.19	U
Sodium	190		87.9	J	117	
Vanadium	32	J-	6.6		8.4	
Zinc	69	J-	45.4		43.2	
Antimony	---	R	0.9	U	0.33	UN
Arsenic	110	J-	0.94	J-	2.63	
Cadmium	3.6		0.094	J	0.04	U
Lead	37	J-	10.4		11.4	
Selenium	0.449		0.23	J-	0.21	U
Thallium	0.065	J	1.6		1.15	
Mercury	0.027	J	0.03	J	NA	

U = not detected

J = analyte detected below the practical quantitation limit (PQL)

J- = estimated and with a low bias

N= (EPA qualifier) matrix spike was outside of acceptable range. Equivalent to J- or J+

E= (EPA qualifier) exceeded linear calibration of the instrument.

Based on the (LANL) analysis, the table with Frequency of Detected Inorganic Chemicals was revised and is presented as Attachment C. Also revised was the table

for Inorganic Chemicals with Concentrations or Detection Limits at or Exceeding BV which is also included in Attachment C.

The result of the resampling effort is that the previous sample was an anomaly or analytical laboratory error, and that as stated in the VCA Report, arsenic should be eliminated from the assessment of carcinogens because all results are below background values. Furthermore, beryllium, cadmium, cobalt, nickel dropped out from the list of inorganic chemicals with concentrations at or exceeding background values, therefore, eliminating them from the assessment.

In conclusion, the confirmatory sampling Location No. 03-14361 further supports the statement made in the VCA Report that there are no COPCs present at this site in concentrations that pose an unacceptable risk to human health or the environment. Therefore, we restate our request for concurrence with our No Further Action determination for this site.

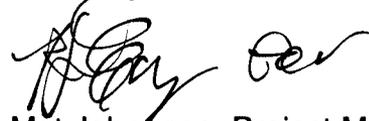
If you have any questions, please call Gabriela Lopez Escobedo at (505) 665-7352 or Dave Gregory at (505) 667-5808.

Sincerely,



Julie A. Canepa, Program Manager  
Environmental Restoration Project  
Los Alamos National Laboratory

Sincerely,



Mat Johansen, Project Manager  
Department of Energy  
Office of Los Alamos Site Operations

JC/MJ/GLE/NR/vn

Enclosure: Attachment A: Photos of EPA Collecting samples  
Attachment B: Sample Results at Location ID No. 03-14361  
Attachment C: Revised Tables

Cy (w/enc.):

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**Attachment A**  
**Photos of EPA Collecting samples**