

June 30, 2006

Ms. Beth Schlapper  
U.S. Nuclear Regulatory Commission  
Region IV: DNMS: NMLB  
Suite 400  
611 Ryan Plaza Drive  
Arlington, TX 76011

**SUBJECT: ANALYTICAL RESULTS FOR SIX WATER SAMPLES COLLECTED  
MAY 23, 2006 FROM TRONOX-CIMARRON CORPORATION,  
CRESCENT, OKLAHOMA  
(INSPECTION REPORT #070-00925/06-001) [RFTA NO. 06-001]**

Dear Ms. Schlapper:

The Oak Ridge Institute for Science and Education (ORISE) received six water samples for analysis from Tronox-Cimarron Corporation, Crescent, Oklahoma on May 25, 2006. The samples were analyzed for gross alpha, gross beta, and uranium alpha isotopic. The gross alpha and gross beta data are presented in Table 1. The uranium isotopic data are presented in Table 2. The pertinent procedure references are provided in the specific tables.

ORISE's Quality Control (QC) requirements were met for these analyses. The QC files are available for your review upon request.

My contact information is listed below. You may also contact Wade Ivey at 865.576.9184 with any questions or comments.

Sincerely,



Dale Condra, Manager  
Laboratory

RDC/WPI:db

Enclosures

c: B. Watson, NMSS/DWMEP/DD/SP 7E18                      E. Abelquist, ORISE  
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**TABLE 1**

**CONCENTRATIONS OF GROSS ALPHA AND GROSS BETA  
BY GAS-LOW PROPORTIONAL COUNTING  
AP1, REVISION 14; CP3, REVISION 2  
TRONOX-CIMARRON CORPORATION  
CRESCENT, OKLAHOMA**

ORISE Sample ID	NRC Region IV Sample ID	Concentrations, TPU's, and MDCs <sup>a</sup> (pCi/L)			
		Gross Alpha		Gross Beta	
1705W0001	NRC 6-01	45.9	± 5.6 <sup>b</sup> (2.8)	20.7	± 3.2 (3.2)
1705W0002	NRC 6-02	3.8	± 1.7 (2.3)	3.2	± 2.0 (3.1)
1705W0003	NRC 6-03	51.0	± 6.7 (3.7)	34.6	± 4.7 (4.1)
1705W0004	NRC 6-04	58	± 12 (11)	529	± 61 (13)
1705W0005	NRC 6-05	1520	± 110 (10)	730	± 70 (10)
1705W0006	NRC 6-06	3850	± 270 (10)	1520	± 140 (10)

<sup>a</sup>MDCs are in parentheses.

<sup>b</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

TABLE 2

**CONCENTRATIONS OF SELECTED  
ALPHA EMITTING RADIONUCLIDES  
IN WATER SAMPLES BY ALPHA SPECTROSCOPY  
AP11, REVISION 3; CP2, REVISION 12  
TRONOX-CIMARRON CORPORATION  
CRESCENT, OKLAHOMA**

ORISE Sample ID	NRC Region IV Sample ID	Radionuclide Concentrations <sup>a</sup> (pCi/L)			
		U-234	U-235	U-238	Total U <sup>b</sup>
1705W0001	NRC 6-01	69.2 ± 5.2 <sup>c</sup> (0.1)	2.91 ± 0.53 (0.16)	11.1 ± 1.1 (0.1)	83.2 ± 5.4
1705W0002	NRC 6-02	12.2 ± 1.3 (0.1)	0.62 ± 0.26 (0.22)	2.39 ± 0.46 (0.14)	15.2 ± 1.4
1705W0003	NRC 6-03	62.5 ± 5.0 (0.4)	3.38 ± 0.61 (0.25)	17.2 ± 1.7 (0.4)	83.1 ± 5.3
1705W0004	NRC 6-04	30.9 ± 2.7 (0.2)	1.58 ± 0.39 (0.06)	11.2 ± 1.2 (0.2)	43.6 ± 3.0
1705W0005	NRC 6-05	1,108 ± 91 (10)	61 ± 11 (4)	766 ± 66 (7)	1,900 ± 110
1705W0006	NRC 6-06	2,750 ± 200 (0) <sup>d</sup>	154 ± 19 (3)	1,650 ± 120 (0)	4,600 ± 230

<sup>a</sup>The MDCs are in parentheses.

<sup>b</sup>Total U is the sum of U-234 + U-235 + U-238.

<sup>c</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

<sup>d</sup>Zero values are due to rounding.