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NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
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STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Kenny C. Guinn, Governor
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10/12 Digital to S Crowley

OCT 12 2006

October 11, 2006

Ms. Susan Crowley
Tronox LLC
PO Box 55
Henderson, Nevada 89009

Re: **Tronox LLC (TRX)**
NDEP Facility ID #H-000539
Nevada Division of Environmental Protection Response to:
Quality Assurance Project Plan (QAPP)
dated August 2006 (received September 29, 2006)

Dear Ms. Crowley,

The NDEP has received and reviewed Tronox's report identified above and provides comments below.

1. Section A8.2, please note that NELAP accreditation is not a substitute for Nevada certification although NELAP accreditation is helpful is expediting the certification process.
2. Laboratory QA Manuals, Section A, please note that the laboratory QA manuals should be included as an appendix to the QAPP.
3. Filtering of Samples, Section B.2, filtering of aqueous samples is not discussed in Section B.2. SOP 7130-04020 states (Section 4.10), "If filtration is required …" The QAPP should clarify if and when filtration will be performed.
4. Database Fields, Section B.10, Section B, page 8 specifies "At a minimum, the database will contain the following fields:" This list should also include the Reporting Limit, Dilution Factor, Qualifier(s) and Reason Code(s).
5. Data Validation, Section D, general comment, it is requested that when data are qualified due to spike recovery issues, including MS, surrogates, and LCS, that the qualifier include a direction of potential bias. Use of + and – signs with the qualifier (e.g. J+) is required. It is also required that the data validation reports include summary tables that contain the percent recovery and RPD values for the applicable samples so that it is clear of the potential bias for each qualified sampled. For example, data qualified due to matrix spike issues should contain a percent recovery for the analyte that exceed the recovery criteria (low or high) and the associated sample to which this qualifier applies.

6. Data Validation, Section D.1.3, partial review should also include Chain-of-Custody items including sample integrity, and cooler/sample temperature.
7. Tables, general comment, a number of tables contain superscripts that appear to refer to a footnote, yet none of the footnotes are provided. Examples include Table A-2, page 10 of 24, reference to "(3)" and Table B-2, page 15 of 24, reference to "(1)."
8. Hexavalent Chromium Holding Time for Soils, Table B-1, page 13 of 24, the correct holding time for soils prepared via EPA Method 3060A for hexavalent chromium is 4 days from digestion to analysis. This specification is consistent with the discussion held with Tronox on 8/22/2006 and captured in the meeting minutes.
9. Radiochemical Analysis, Tables B-2, pages 16 and 17 of 24. Table B-2 lists two different types of radiochemical methods for Radium 226 and Radium 228. The aqueous methods that are listed include 903.1 (alpha) and 904.0 (beta), the listed soil methods are both 901.1/EML HASL 300 (gamma spectroscopy). Please clarify if the intent is to use different radiochemical analyses for the soil and aqueous samples. The alpha and beta methods are also listed in Table B-3. If gamma spectroscopy is planned the appropriate QC checks for the method should be provided in Table B-3.

The QAPP should be revised and resubmitted. It is expected that these comments will be addressed as part of the implementation of the Phase A Scope of Work and that the revision of the QAPP shall not delay the implementation of the Phase A Scope of Work. Please provide a revised QAPP as soon as possible. Please advise the NDEP when this revised document can be expected. If there are any questions please do not hesitate to contact me.

Sincerely,

Brian A. Rakvica, P.E.
Supervisor
Bureau of Corrective Actions
Special Projects Branch
NDEP-Las Vegas Office

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Tronox Response to NDEP October 11, 2006 Comments on Quality Assurance Project Plan dated September 28, 2006

NDEP Comment

1 Section A8.2, please note that NELAP accreditation is not a substitute for Nevada certification although NELAP accreditation is helpful is expediting the certification process.

Response

The section will be revised to state, "In the absence of Nevada certification, National Environmental Laboratory Accreditation Program (NELAP) may be considered acceptable until Nevada offers certification for the parameter of interest. The laboratories must submit the necessary IDC and PE data to obtain certification from NDEP, Bureau of Water Quality Planning (BWQP) for all project parameters of interest and methods of interest that Nevada will certify."

Tronox has required that the laboratories performing sample analyses for the Henderson facility be either already certified in Nevada for each parameter/matrix combination or have submitted all the necessary IDC and PE data to obtain certification from BWQP, if the certification is available.

NDEP Comment

2 Laboratory QA Manuals, Section A, please note that the laboratory QA manuals should be included as an appendix to the QAPP.

Response

When final laboratory selection is made for each upcoming investigation the lab QA manuals will be included as an appendix to the QAPP on file at the time of sampling. Section A 9.3 will be revised to state the Laboratory QA manuals for the laboratories currently performing the work are included in Appendix B. When new of different laboratories are used their manuals will also be provided.

NDEP Comment

3 Filtering of Samples, Section B.2, filtering of aqueous samples is not discussed in Section B.2. SOP 7130-04020 states (Section 4.10), "If filtration is required …". The QAPP should clarify if and when filtration will be performed.

Response

In general Tronox will not filter collected water samples, however if filtration is needed for specific sampling events Tronox will provide information in the project specific workplans about field filtration. For the Phase A Source Area Investigation Tronox plans to filter only the groundwater grab samples from the soil borings if the apparent turbidity is high. Both filtered and unfiltered samples will be collected for the analysis of metals and radionuclides. All other analyses of the soil boring groundwater grab samples will be performed on unfiltered samples. The monitor well water analyses will be performed on unfiltered samples.

NDEP Comment

4 Database Fields, Section B.10, Section B, page 8 specifies "At a minimum, the database will contain the following fields:" This list should also include the Reporting Limit, Dilution Factor, Qualifier(s) and Reason Code(s).

Response

These fields are included in the database and Tronox will add the field description to the QAPP.

NDEP Comment
5 Data Validation, Section D, general comment, it is requested that when data are qualified due to spike recovery issues, including MS, surrogates, and LCS, that the qualifier include a direction of potential bias. Use of + and – signs with the qualifier (e.g. J+) is required. It is also required that the data validation reports include summary tables that contain the percent recovery and RPD values for the applicable samples so that it is clear of the potential bias for each qualified sampled. For example, data qualified due to matrix spike issues should contain a percent recovery for the analyte that exceed the recovery criteria (low or high) and the associated sample to which this qualifier applies.

Response

When data are qualified by validators and a direction of potential bias is clear, based on results in the data set, then + or – signs will be added to indicate the possible bias. Summary tables with percent recovery and RPD data indicating the need for data qualification will be included with the data validation memos. This will be added under section D 3.2.

NDEP Comment
6 Data Validation, Section D.1.3, partial review should also include Chain-of-Custody items including sample integrity, and cooler/sample temperature.

Response

These items are included in the partial review and will be described in the QAPP.

NDEP Comment
7 Tables, general comment, a number of tables contain superscripts that appear to refer to a footnote, yet none of the footnotes are provided. Examples include Table A-2, page 10 of 24, reference to "(3)" and Table B-2, page 15 of 24, reference to "(1)."

Response

The superscripts and footnotes for the tables will be corrected.

NDEP Comment
8 Hexavalent Chromium Holding Time for Soils, Table B-1, page 13 of 24, the correct holding time for soils prepared via EPA Method 3060A for hexavalent chromium is 4 days from digestion to analysis. This specification is consistent with the discussion held with Tronox on 8/22/2006 and captured in the meeting minutes.

Response

The 7 day leachate holding time was derived form EPA 3060A Sec. 6.4, however the holding time will be changed to 4 days based on the meeting minutes cited above.

NDEP Comment
9 Radiochemical Analysis, Tables B-2, pages 16 and 17 of 24. Table B-2 lists two different types of radiochemical methods for Radium 226 and Radium 228. The aqueous methods that are listed include 903.1 (alpha) and 904.0 (beta), the listed soil methods are both 901.1/EML HASL 300 (gamma spectroscopy). Please clarify if the intent is to use different radiochemical analyses for the soil and aqueous samples. The alpha and beta methods are also listed in Table

B-3. If gamma spectroscopy is planned the appropriate QC checks for the method should be provided in Table B-3.

Response

Tables B-2 and B-3 will be adjusted to reflect Tronox's intent to require gamma spectroscopy for the analysis of Ra-226 and Ra-228 in soil and EPA 903.1 for Ra-226 and EPA Method 904.0 for Ra-228 in water. The laboratories performing the radiochemical analyses have advised us that the analysis of Ra-226 and Ra-228 in water by gamma spectroscopy is technically not appropriate and insufficiently sensitive to meet the detection limits desired .