



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

Jim Gibbons, Governor
Allen Biaggi, Director
Leo M. Drozdoff, P.E., Administrator

December 30, 2009

Susan Crowley (Contractor)
C/O Tronox LLC
PO Box 55
Henderson, NV 89009

Re: **Tronox LLC (TRX)**
NDEP Facility ID #H-000539
Nevada Division of Environmental Protection (NDEP) Response to:
Data Validation Summary Report Phase B Investigation Area I Soil
Dated December 21, 2009

Dear Ms. Crowley,

The NDEP has received and reviewed TRX's above-identified Deliverable and provides comments in Attachment A. A revised Deliverable should be submitted based on the comments found in Attachment A. TRX should additionally provide an annotated response-to-comments letter as an appendix to the revised submittal **by January 15, 2010.**

Please contact the undersigned with any questions at brakvica@ndep.nv.gov or (702) 486-2850 extension 247.

Sincerely,

Brian A. Rakvica P.E.
Supervisor, Special Projects Branch
Bureau of Corrective Actions
NDEP-Las Vegas Office
Fax: 702-486-5733

BAR:s



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Attachment A

1. General comment, the Deliverable does not conform to a number of previously issued NDEP guidance documents, examples are provided below.
2. **Level of Validation. Section 2.0 and General.** In Section 2.0 the data validation summary report (DVSR) indicates all of the Phase B Investigation data underwent validation with approximately 10% validated to Stage 4. Review of the database validation_flag field indicates 6260 of values are designated "N" and 262 has no designation (are blank) in this field. The database contains a total of 74,852 records in the results table. Review of the validation_stage field in the database indicates 4,569 records are designated to have been validated at Stage 4. The value of 4,569/74,852 indicates that approximately 6.1% of records have this designation, a value less than 10%. See item 2.c below also. The validation_flag field also indicates not all the records were validated. There are also inconsistencies between fields in the database (see 2.d below). The DVSR should clarify why the database appears to differ from the text.
3. **Database. General.** There are many issues associated with the EDD database provided with this DVSR that require attention. The database should be reviewed in detail. The following issues are noted with the database, however with the number of issues that have been identified it is recommended that all components of the database should be reviewed for accuracy and compliance with NDEP-required EDD format.
 - a. For the radiochemistry results: The result_uncertainty and the minimum_detectable_activity fields are all blank. It is unclear how the radiochemistry values in the MDL, SQL, and PQL related to uncertainty. These records need to be corrected to meet the NDEP *Guidance on Data Reporting and Detection Limits* as well as the NDEP Unified EDD Format guidance.
 - b. The asbestos results have none of the sensitivity (asbestos_analytical_sensitivity) and uncertainty (asbestos_sensitivity_units) information in the database that is required as described in the EDD Format guidance. The analyst_name information is also missing.
 - c. The analytical_suite field has a number of records that are blank, please added the appropriate code to these records. Also, the code "O.Pesticides" is ambiguous, please use OPPest or OCPEst to differentiate the suites.
 - d. There are circa 3000 records in the database where the validation_flag is equal to "N" yet the validation_stage field has a designation that includes one of the following: 4, Stage 2B, Stage 4. If the data was validated to stage 4, Stage 2B, or Stage 4 then the validation_flag value should be T (see 2.g below).
 - e. The validation_stage has 32,857 blank values (of 74,852 records). In general, all records should have some type of validation designation.
 - f. Sensitivity DQIs. The sensitivity data quality indicators in the database do not appear to match the NDEP requirements. In many instances the sample quantitation limit (SQL) is equal to the practical quantitation limit (PQL). This is an uncommon association if the SQL and PQL are defined according to the NDEP guidance. It also appears that the MDL is used to establish the censoring level, where results are reported with a U qualifier at the MDL level. This approach is not recommended unless the MDL in the database is equivalent to the NDEP SQL definition where it represents the sample-specific (e.g. dilutions) detection limit.

The sensitivity indicators in the database should be reviewed against the NDEP *Guidance on Data Reporting and Detection Limits* and adjusted where appropriate.

- g. The validation_flag field should only contain one of two values: T or F. The database supplied uses Y or N, please correct these values.
 - h. There are a number of target compounds in the database with no result_report value and no final_validation_qualifier. With no qualifier it is unclear why no result_report value is provided. Values with no result_report are of no value unless they are correctly qualified. Please review and correct these values as appropriate.
4. **Holding Time Limits. Table 3-1.** The holding time limits in Table 3-1 are incorrect for EPA Method SW 846 8260B. A soil sample holding time limit for this method is 14 days when properly preserved. However, it does appear that the samples have been correctly qualified in this table. This table should be reviewed for accuracy of sampling holding times and the time limit corrected. The table should also show the true "Actual Prep HT" such as 21 days, not just a greater than (>) value.
 5. **Laboratory Qualifiers. Tables.** Several of the tables include laboratory qualifiers (LabQual) with uncommon designations (e.g. N, N*). Provide a definition for all qualifiers used in the tables.