



environmental management, inc.

**From:** Deni Chambers, Principal in Charge  
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**Date:** April 14, 2011

**To:** Shannon Harbour, P.E.  
Nevada Division of Environmental Protection

**RE:** Response to NDEP's March 11, 2011 Comments, *Data Validation Summary Report, Additional Pre-Confirmation Sampling Tronox LLC Facility, Henderson, Nevada*

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**Response to NDEP's March 11, 2011 Comments on  
Data Validation Summary Report, Additional Pre-Confirmation Sampling  
Comment:**

1. *Inconsistencies between DVSR components, NDEP has noted several inconsistencies between the EDD, DVSR, and the reports and tables associated with the DVSR. NDEP has noted several of these inconsistencies but the Trust should note that the following may not fully encompass all discrepancies as appropriate.*
  - a. *The EDD was compared to each of the tables in Section 3. There were some discrepancies between the numbers of records in the table compared to the EDD. For example, Table 3-11, Professional Judgment, has 1273 records, while there are only 1254 in the EDD. Tables 3-2 (144 vs 152), 3-4 (605 vs 587), 3-6 (103 vs 101), 3-7 (723 vs 722), 3-8 (1520 vs 1544), and 3-9 (482 vs 448).*
  - b. *Sample information (e.g., results, qualifiers, QC information) from selected laboratory reports and samples is consistent with the EDD for TA West Sacramento, TA Denver, EMSL and EMS laboratories with one exception. Report "J2699-1 Std\_Tal\_L4\_Package\_Mini Final Report.pdf" from TA Denver was for SVOA analysis for sample SSAK7-03-1BPC. The only result in the EDD was for percent moisture and the EDD result of 8.1% does not match the lab report result of 5.7%. Please review all associated reports for any additional discrepancies.*

**Response:**

**1a.** During review of the EDD and the DVSR it was found that a number of inconsistencies were incorporated into the Section 3 tables by the validation subcontractor. In correcting these inconsistencies, the EDD was reviewed and edited to be in agreement with the tables in Section 3 of the DVSR.

**1b.** Upon review of the EDD and DVSR tables, the associated field samples were compared to the EDD, and the EDD and tables were corrected. The data for field sample SSAK7-03-1BPC was corrected.

**Comment:**

2. *The following are specific instances of inconsistency. Please revise as necessary:*
- a. *Sample SSAP3-01-1BPC, SDG=280-2448-1, LDC=23162E, the EDD does have results for As and % moisture for this sample. However, Table 1-3 only shows analysis for Mg (on pg2); this is highlighted as a Stage 4 validation and the As shows as Stage 2B in the EDD. In the data validation report file "23162.pdf", this sample is found on p.296 under LDC 23162E4.*
  - b. *Sample SA206-8.00BPC, SDG=280-4859-3, LDC=23751A, the EDD has a slightly different sample ID: SA206-8BPC. Table 1-3 shows analysis for As DV file "23751.pdf" (p.1) found under LDC=23751A4.*
  - c. *Sample SSAN6-05-4-01-BPC, SDG=G0J270514, LDC=24524G, the EDD does contain data for this sample. Table 1-3 (p.85) shows dioxin analysis for this sample. However, no validation report was located for this LDC (with file name 24524).*
  - d. *Sample SSA03-04-0BPC, SDG=280-6535-1, LDC=24047, the EDD does NOT contain data for this sample. Table 1-3 (p.85) shows SVOA analysis. However, no validation report was located for this LDC (with file name 24047).*

**Response:**

2a. The arsenic data for sample location SSAP3-01-1BPC was reported in SDG 280-2448-14 and presented in the Data Validation Summary Report, Pre-Confirmation Sampling Remediation Zone C, Tronox LLC Facility, Henderson, Nevada, dated July 28, 2010. The EDD was amended to present only the magnesium data reported in SDG 280-2448-1 and validated as Stage 4 in LDC report 23162E (pgs 296, 304 and 307).

2b. The data presented in this DVSR was submitted from four analytical laboratories. It is understood that field sample ID SA206-8.00BPC is the same as field sample SA206-8BPC, where the sampling depth is 8 feet.

2c. The Method 8290 validation report for SDG G0J270514 containing sample location SSAN6-05-4-01BPC is located in Appendix B, as LDC validation report 24524G, presented on pages 143 through 178 of the associated file.

2d. The correct field sample ID is SSAO3-04-0BPC, where the fourth identifier is the letter "O." Method 8270 sample results were part of the original EDD submittal and may be found by filtering by method or SDG number. The validation report for Method 8270 analysis is located in Appendix B as LDC 24047F, located on pages 48 through 72.



**Comment:**

3. *The following comments pertain to the EDD Database. Please revise as necessary.*
- a. *Sample\_id\_field values in Results Table do not exist in Samples Table. For example, SB03-24BPC in Results Table does not exist in Samples Table.*
  - b. *Location\_id field values in Samples Table do not exist in Locations Table. For example, SSAM6-05 in Samples Table is not present in Locations Table.*
  - c. *Percent moisture field is missing from Results Table.*
  - d. *There are 1706 records where prep\_date and prep\_time is NULL. (See attached electronic file). This is acceptable for the GENERAL suites but perchlorate and chloride should have this information.*
  - e. *There are 25697 records where non\_detects are fully censored (have no value). Non-detects should contain the SQL in the result\_reported field.*
  - f. *There are 623 records where detect\_flag\_fod is T but final\_validation qualifier is non-detect –“U”. (See attached electronic file).*
  - g. *There are 33 records where result\_reported<=SQL but the final\_validation\_reason\_codes is NULL. (See attached electronic file). In several cases the SQL is greater than the PQL, which is inconsistent with the definitions.*
  - h. *There are 3744 records where the result\_reported <SQL and detect\_flag\_fod=T. (See attached electronic file). In many instances the SQL is greater than the PQL, which is inconsistent with the definitions.*
  - i. *There are 79 records where validation\_stage is NULL in Results Table but validation\_flag <> F. (See attached electronic file). These area all percent moisture results, hence the validation flag should be equal to “F”.*
  - j. *There are 5 records where final\_validation\_qualifier is NULL but final\_validation\_reason\_codes not NULL. (See attached electronic file). These all contain final\_validation\_reason\_codes =”N” which is not defined in the validation\_reason table.*
  - k. *There are 25309 records where final\_validation\_reason\_codes is NULL but final\_validation\_qualifier is not NULL. In general, all qualified data (those data with a qualifier in the final\_validation\_qualifier field) should contain a reason code.*

**Response:**

3a. The EDD was reviewed and amended to confirm that all Sample\_id field values are located in both the Results Table and Samples Table. Sample\_id SB03-24BPC is now correctly listed in the Samples Table.



3b. The EDD was reviewed and amended to confirm that all location\_IDs are located in both the Locations Table and Samples Table. SSAM6-05 is now correctly listed in the Locations Table.

3c. In accordance with the NDEP-Required Electronic Data Deliverable (EDD) Format, dated July 7, 2010 the percent moisture field is presented in the Samples Table. That data is supplemented by individual Method ASTM-2216 results reported by one of the four labs in the Results tables.

3d. The EDD was amended to populate the prep\_date and prep\_time fields for perchlorate, chloride and chlorate.

3e. The EDD was amended to populate the result\_reported field with the sample specific SQL for all non-detected target analyte (TG) records, with the exception of asbestos, pH, percent moisture, percent solids, Method 8290 TTEQs, internal stdns, and surrogates.

3f. The EDD was amended by changing the detect\_flag\_fod to F (false) to indicate the result was non-detected "U".

3g. During the review of the EDD, DVSR tables and laboratory reports it was found that the SQL and RDL was reported incorrectly in the EDD. The amendment EDD reflects the correct PQL and SQL values.

3h. During the review of the EDD, DVSR tables and laboratory reports it was found that the SQL and RDL was reported incorrectly in the EDD. The amendment EDD reflects the correct PQL and SQL values.

3i. The amended EDD shows the validation\_stage as NULL for all percent moisture and the validation\_flag was amended to F, indicating the data were not validated.

3j. The EDD was amended by removing the final\_validation\_reason\_codes = N. This code was presented in error.

3k. During the review of the EDD and DVSR all results were reviewed. Records where the final\_validation\_qualifier was not NULL and the result was non-detected, "U" qualified, a final\_validation\_reason\_codes "nd" was added.

