STREAM CONDITION INDEX REFRESHER AUDIT
LAB AUDIT REPORT

Aquatic Ecology and Quality Assurance Section
Florida Department of Environmental Protection
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Scope of Audit

Samplers or field organizations that submit Stream Condition Index (SCI) data to the Florida Department of Environmental Protection (DEP) must pass an initial field audit and then pass a refresher audit every five years, per DEP SOP SCI 1300. The refresher audit requires the sampler or field organization to collect an SCI sample at a designated DEP SCI Benchmark Site and submit the sample to a laboratory for processing, following DEP SOP SCI 1000, which includes lab sample sorting, lab taxonomic identification, and calculation and reporting of the SCI index resulting from the sample analysis. The sampler or field organization demonstrates continuing proficiency (and is designated with a "pass" status in the DEP Bioassessment Registry) if the reported SCI score is no more than 19 points lower than the median SCI score for the Benchmark Site. An SCI result that is within the acceptance criteria established for the respective benchmark site provides assurance to DEP that both the sampler or field organization and the taxonomic lab are properly following the DEP SOP. To provide further assurance that the macroinvertebrate taxonomy lab is following the sample processing and index calculation protocols in the SOP, DEP conducts an audit of the required documentation associated with the refresher audit sample analysis to better determine how closely the lab complies with the procedures in DEP SOP SCI 2000. Note that the procedures and quality control for sorting and taxonomic identification assessed during this audit are the same as those required for the macroinvertebrate Wetland Condition Index (DEP SOP LT 7600).

For this particular audit, two SCI samples were examined. The first was collected on March 10, 2012 at Payne Creek. The second was collected on April 4, 2013 on Little Payne Creek. Some of the audit findings are unique to each individual SCI sample while other findings and comments pertain to Terra Environmental Services overall laboratory protocols for the handling and processing of SCI samples.

Audit Outcome

DEP found that the Terra Environmental macroinvertebrate taxonomy lab procedures complied with DEP SOP SCI 2000 for sample sorting, taxonomic identification, and index calculation with only a few minor deficiencies as noted below.

SCI Benchmark Sites:	• Payne Creek • Little Payne Creek
Sample Collection Dates:	• May 10, 2012 • April 4, 2013
Macroinvertebrate Lab:	• Terra Environmental Services, Inc.
Analysis Dates:	• May 15, 2012 (sorting date – no other analysis dates available) • April 4, 2013 (sorting date)
Auditors:	• Joy Jackson, Nia Wellendorf

Records Provided Date:	• August 13, 2013
Final Audit Report Date:	• April 14, 2014

Records Evaluated

The following records (with file names) were submitted to DEP by Terra Environmental Services, Inc. (Terra) and evaluated for this audit:

- Taxonomic keys most frequently used, Description of corrective actions, QC records for sorting for 2012, List of SCI samples analyzed in 2012, Sample sorting bench sheets, Taxonomic identification bench sheets, Taxonomic attributes for metrics, Metric values and SCI score value (SCI Audit Documentation.pdf),
- List of verified taxa in reference collection (Verified List of Annelida.xls, Verified List of Arthropoda & Other Phyla.xlsx, Verified List of Mollusca.xlsx, Verified List of Other phyla.xls),
- QA records for taxonomic QC for 2012 (Taxonomy QAQC Resolution Form SCI audit.xls, Taxonomy QAQC Sheet SCI samples 2012.xls)
- Collapsed taxa list and metric calculations as initially reported on 6/1/12.
- Terra Environmental' s Response to Initial Audit Report (Terra Audit Response.docx)

Audit Findings

Lab Quality System: Overall, Terra Environmental Lab conducts the quality control (QC) measures as required by the SCI SOP. The organisms found in the samples that were reviewed as part of this audit were represented in Terra Environmental reference collection and have been verified by outside experts. DEP suggests that as Terra Environmental processes more freshwater samples, they continue to expand their reference collection, especially in regards to arthropods and mollusks.

***Sample Sorting and Identification Process*:** It was difficult to determine how exactly the subsampling had been performed based solely on the initial records provided. Terra Environmental provided clarification on their sorting and subsampling protocols in their response to the initial audit report. Based on that clarification, the auditors conclude that Terra Environmental is properly following DEP SOPs resulting in a homogenized sample with two replicates with the required number of individuals.

At the top of the data sheets the total number of organisms that is recorded represents an initial estimate removed during the sorting process. This number may differ from the final number of organisms used to calculate the SCI score as it is only an estimate. It was initially unclear what this number represented until clarified by Terra during their response to the initial audit findings. In future samples, Terra will make a distinction on the data sheets between the estimated and actual number numbers of organisms identified in each replicate.

The numbers of individuals between the original and collapsed taxa lists were different from one another. Although these differences were slight and did not appear to affect the metric calculations, care must be taken to obtain accurate counts. In the future, Terra will verify these numbers to ensure that counts are accurate and consistent between taxa lists.

DEP was unable to determine which specimens were mounted for the Little Payne Creek sample. This information was provided for the Payne Creek sample. DEP was not able to establish a linkage among the slides, vials, and data sheets for either sample. There was insufficient documentation on the data sheet indicating the number of slides or vials associated with each replicate. Terra will add these documentation items to their data sheets in order to establish this linkage for future samples.

Sample Sorting QC: Terra Environmental did not track or provide the cumulative sorting efficiency per analyst. However, the sorting efficiencies for 12 months could be ascertained from the information provided for 2012 SCI samples. This information should be maintained for each analyst, and should be cumulative over the entire work history (excluding the initial training). Terra conducts a QC check on a minimum of 10% of aliquots sorted for each replicate with a minimum of at least one

aliquot per replicate. Quality control evaluation of sorting efficiency follows the DEP SOP procedure, and all analysts are performing sample sorting with greater than 95% efficiency, on average.

Taxonomic Identification QC: The Terra Environmental laboratory taxonomic identification procedures and quality control evaluations of individual taxonomist performance meet DEP SOP requirements. Information on cumulative identification rates was not available because Terra had only done one annual Taxonomic QC sample when records were provided for this audit. The information provided for this sample/analyst showed 97% correct identifications.

SCI Index Calculation: Terra Environmental correctly classified taxa according to their attributes. Some previous feedback on metric calculations had been provided by DEP regarding the improper use of the conversation factor to calculate the number of individuals in the entire sample and then base metric calculation on these numbers. (These changes had not been incorporated into these samples as they were processed prior to that discussion.) Previously, Terra was using the conversion subsampling factor to calculate the number of individuals in the entire sample and then basing the SCI calculations on these numbers rather than only using the actual numbers in the subsample. Terra has revised its calculations and will recalculate SCI scores for samples that were previously calculated.

More detailed audit findings are contained in the audit checklist below.

Corrective Actions

The findings for this audit, as listed in the audit checklist below, indicate that Terra Environmental should implement certain corrective actions to ensure conformance with DEP SOP requirements for data submitted to DEP for SCI refresher audits or other purposes. The following corrective action must be implemented for noted documentation deficiencies (see DEP SOP SCI 1000 for required documentation):

- Consistently record which organisms are slide-mounted and maintain a linkage back to the original vial(s) and data sheet.
- Ensure that the numbers of individuals listed on the data sheets are accurate and consistent.

In addition, DEP recommends that the laboratory continue to add to its existing reference collection to better represent large groups of commonly occurring taxa.

Lab Records Audit Checklist for SCI sampling processing and data analysis			
Lab	Terra Environmental Services, Inc.		
Sample	SCI Refresher Audit sample, collected on 5/10/12 from Payne Creek.		
PERFORMANCE MEASURE		**PERFORMANCE ASSESSMENT**	
		Assessment	**Remarks**
1. Lab quality system (SCI 2200, LQ 7400 1. General Requirements) - *Could apply to SCI, BioRecon, LCI, WCI, Hester-Dendy, Dredge, or Core sample analysis*		***Refer to list of taxonomic keys and list of reference collection specimens to address the following requirements.***	
1.1	Lab maintains copies of appropriate taxonomic identification keys.	YES	Terra provided information on the 10 most commonly used references per DEPs request, and those were appropriate references. They are familiar with and regularly use other keys not specifically listed.
1.2	Lab maintains taxonomic specimen collection.	YES	The specimens in the sample reviewed for this audit were represented in the reference collection. Each taxonomist at Terra Environmental maintains specimens and a respective reference collection making it difficult ascertain the overall completeness of their collection. It is suggested that the laboratory maintain a single master reference list with the organisms listed by Phylum, Family, and then Genus and Species. As the laboratory processes more SCI samples, it is recommended that Terra continue to add to its reference collection, especially with respect to the arthropods and mollusks.
1.3	Taxa found in samples are represented in the reference collection.	YES	Checked all taxa found in replicates under Phylum Annelida and Mollusca; and random checked taxa under Phylum Arthropoda.
1.4	Lab retains extramural experts to verify identifications.	YES	A variety of experts have been used according to the reference collection lists.
1.5	Specimens in collection are verified by extramural expert.	YES	
1.6	Lab contains basic equipment necessary for sorting and taxonomic analysis (compound and dissecting microscopes, divided trays, #30 sieve) [applicable to lab visit audit only]	N/A	Auditor did not visit the lab, so this element was not evaluated.
2. Sample sorting and identification process (SCI 2100) - *Applies to processing for SCI samples, could be adjusted for other samples that follow LT 7010-7040*		***Refer to raw bench sheets to address the following requirements.***	
2.1	Sample homogenized and subdivided at prescribed levels; records indicate fractions of samples sorted and reflects that 2 or 3 trays were used (may only have 2 if insufficient material to warrant 3 trays)	YES	It was difficult to determine how exactly the subsampling had been performed based solely on the initial records provided. However, in response to the Initial Lab Audit Report, Terra supplied a more detailed explanation of their sorting and subsampling protocols that adhere to the DEP SOPs.

2.2	Two aliquots of 150 (±10) organisms picked from sample material.	?	The number of individuals were not consistent or accurate among the original and collapsed taxa lists. The differences were small and had very little effect on the metric calculations, however care should be taken to obtain accurate and consistent counts. The numbers of individuals between the original and collapsed taxa lists were different from one another. Although these differences were slight and did not appear to affect the metric calculations, care must be taken to obtain accurate counts. In the future, Terra will verify these numbers to ensure that counts are accurate and consistent between taxa lists.
2.3	The X qualifier is used if insufficient organisms are in the sample to obtain 2 replicates of 150. (only applicable if <300 organisms were in the sample)	N/A	There was sufficient material for two reps of 150, so this element was not evaluated.
2.4	Analysts prepare slides and use a compound microscope for identification of appropriate groups when needed (typically worms, midges, mites)	YES	
2.5	Individual taxon names and counts are recorded on data sheet	YES	
2.6	Slides clearly identified and linked to the sample vials and sample data sheets by unique sample ID and specimen ID	YES	Data sheets for the Payne Creek sample clearly indicate which specimens were mounted. Slides not examined for audit.
2.7	Taxonomic data sheet indicates when specimens are removed from sample vial for any reason (e.g., placed in reference collection or send to extramural expert).	YES	Data sheets clearly indicate which specimens were verified or removed for reference collection.
2.8	Taxa collapsing routine conducted per SOP SCI 2100 section 4. or LT 7040. Original and collapsed taxonomic lists maintained.	YES	
2.9	Documentation available for items listed in SCI 2110	?	The number of slides and the individual organisms mounted were identified, but the slides were not provided nor was the information linking them to the original sample. Did not evaluate identification of archived vials or slide-mounted organisms.
3. Sample sorting QC (SCI 2210, LQ 7410) - *Applies to processing for SCI, LCI, WCI, Hester-Dendy, dredge or core samples*		***Refer to sorting efficiency tracking records, corrective action protocol, list of analyzed samples, and raw bench sheets to address the following requirements.***	
3.1	Sorting efficiency check conducted for a minimum of 10% of aliquots per sample.	YES	
3.2	Sorting efficiency calculation conducted per SOP (LQ 7410 1.4)	YES	
3.3	Sorting efficiency tracked for each analyst.	NO	The cumulative sorting efficiency per analyst was not tracked or provided but could be ascertained from the information provided for SCI samples for

			samples processed in the previous 12 months. This information should be maintained for each analyst and should be cumulative over the entire work history for that analyst.
3.4	Cumulative sorting efficiency 95% or greater for each analyst.	YES	A description is provided of the corrective measures. However, it appears analyst "JD" had two consecutive samples that were below 95% (94 & 89%), but the records end at that point and therefore it could not be determined whether corrective action was taken in this particular instance.
3.5	Precautionary measures taken when single-analyst cumulative sorting efficiency falls below 95%.	YES	See 3.4 above. Although the requested records did not include the precautionary action, Terra indicated in their response that precautionary and corrective actions are taken and will be notated in the QA/QC sorting records.
3.6	Corrective action taken when single-analyst cumulative sorting efficiency falls below 90%.	YES	See 3.4 and 3.5 above.
3.7	Documentation available for items listed in SCI 2211	NO	The cumulative sorting efficiencies were not specifically provided by analyst although it could be calculated for SCI samples based on the information provided.
4. Taxonomic identification QC (SCI 2220, LQ 7420) - *Applies to processing for SCI, LCI, WCI, Hester-Dendy, dredge or core samples*		***Refer to taxonomic QC tracking records, corrective action protocol, list of analyzed samples, and raw bench sheets to address the following requirements.***	
4.1	For freshwater sampling, identify taxa to the lowest practical taxonomic level as listed in Table LT 7900-1 or SCI 2230.	YES	Some groups were not identified to the taxonomic level required in Table LT 7900-1 but explanations were given in the notes.
4.2	Quality control performed on 5% of samples (or SCI replicates), per LQ 7420 section 3.	YES	Records indicated that a taxonomic QC was performed on 1 of 12 samples (8%).
4.3	Taxonomic discrepancies associated with the QC check resolved through use of extramural expert when needed. (may only be able to evaluate this element if corrections were made on bench sheet)	YES	
4.4	The single-analyst cumulative correct identification rate is 95% of the total number of individual organisms and 95% of taxa identified in all samples or subsamples enumerated by the analyst (5% cumulative error rate over 12 months)	YES	Information on cumulative identification rates was not provided. Information for a single QC sample and analyst achieved 97% correct IDs. This was the only Taxonomic QC sample performed by Terra Environmental staff to date and therefore they would comply with the ≥95% ID requirement.
4.5	Documentation available for items listed in SCI 2221.	YES	Information on cumulative identification rates was not available because this was their first Taxonomic QC sample. The information provided for this sample/analyst showed 97% correct IDs.
5. SCI Index calculation (SOP SCI 2100 section 5.) - *Applies to SCI only. Additional checklist would be needed for other indices.*		***Refer to SCI metric and index calculation records to address the following requirements.***	

5.1	Taxa correctly labeled as long-lived, sensitive, and very tolerant per SOP SCI 2100 section 5.1-5.3	YES	All taxa were accurately categorized.
5.2	Taxa correctly assigned to the following taxonomic groups, as required for metric calculations in SOP SCI 2100 section 5.4: Ephemeroptera, Trichoptera, Tanytarsini tribe	YES	See Section 5.1.
5.3	Taxa correctly labeled as having a clinger or filter feeder habit, per Merritt and Cummins, An Introduction to the Aquatic Insects of North America (SOP SCI 2100 section 5.5)	YES	See Section 5.1.
5.4	Sample correctly assigned to SCI region	YES	
5.5	Metrics and index calculated for each replicate following instructions in SOP SCI 2100 Table SCI 2100-1 and steps 1-6 following the table.	YES	Previous feedback on metric calculations had been provided by DEP regarding the improper use of the conversation factor to calculate the number of individuals in the entire sample and then base metric calculation on these numbers. Terra processed these samples prior to that discussion and therefore reflect the incorrect methodology. Terra will recalculate SCI scores for any sample where the incorrect calculations were employed.
5.6	Did this sample compare well with most recent DEP samples at this site?	YES	Taxonomy compares well overall with DEP samples. Overall score, individual metrics, and taxa lists were very similar to samples collected by DEP Staff.

Lab Records Audit Checklist for SCI sampling processing and data analysis			
Lab	Terra Environmental Services, Inc.		
Sample	SCI Refresher Audit sample, collected on 4/4/13 from Little Payne Creek.		
PERFORMANCE MEASURE		**PERFORMANCE ASSESSMENT**	
		Assessment	**Remarks**
1. Lab quality system (SCI 2200, LQ 7400 1. General Requirements) - *Could apply to SCI, BioRecon, LCI, WCI, Hester-Dendy, Dredge, or Core sample analysis*		***Refer to list of taxonomic keys and list of reference collection specimens to address the following requirements.***	
1.1	Lab maintains copies of appropriate taxonomic identification keys.	YES	Terra provided information on the 10 most commonly used references per DEPs request, and those were appropriate references. They are familiar with and regularly use other keys not specifically listed.
1.2	Lab maintains taxonomic specimen collection.	YES	The specimens in the sample reviewed for this audit were represented in the reference collection. Terra has separate reference collections which are maintained by the analyst responsible for a particular group. It would be helpful if a single Master Reference List were maintained where the organisms are listed by Phylum, Family, and then Genus and Species. It is suggested that they continue to add to their reference collection, especially with respect to the arthropods and mollusks.

1.3	Taxa found in samples are represented in the reference collection.	YES	Checked all taxa found in replicates under Phylums Annelida and Mollusca; and performed random checked taxa under Phylum Arthropoda.
1.4	Lab retains extramural experts to verify identifications.	YES	A variety of experts have been used according to the reference collection lists.
1.5	Specimens in collection are verified by extramural expert.	YES	
1.6	Lab contains basic equipment necessary for sorting and taxonomic analysis (compound and dissecting microscopes, divided trays, #30 sieve) [applicable to lab visit audit only]	N/A	Not reviewed - records audit only.
2. Sample sorting and identification process (SCI 2100) - *Applies to processing for SCI samples, could be adjusted for other samples that follow LT 7010-7040*		***Refer to raw bench sheets to address the following requirements.***	
2.1	Sample homogenized and subdivided at prescribed levels; records indicate fractions of samples sorted and reflects that 2 or 3 trays were used (may only have 2 if insufficient material to warrant 3 trays)	YES	It was difficult to determine how exactly the subsampling had been performed based solely on the initial records provided. In response to the Initial Audit Report, Terra supplied a more detailed explanation of their sorting and subsampling protocols that adhere to the DEP SOPs.
2.2	Two aliquots of 150 (±10) organisms picked from sample material.	?	The numbers of individuals between the original and collapsed taxa lists were different from one another. Although these differences were slight and did not appear to affect the metric calculations, care must be taken to obtain accurate counts. In the future, Terra will verify these numbers to ensure that counts are accurate and consistent between taxa lists.
2.3	The X qualifier is used if insufficient organisms are in the sample to obtain 2 replicates of 150. (only applicable if <300 organisms were in the sample)	N/A	There was sufficient material for two reps of 150, so this element was not evaluated.
2.4	Analysts prepare slides and use a compound microscope for identification of appropriate groups when needed (typically worms, midges, mites)	YES	There was no indication on the data sheets that any specimens were slide-mounted. However, Terra indicated in their response to the initial audit report that slides were used for identifying some of the taxa in this sample.
2.5	Individual taxon names and counts are recorded on data sheet	YES	
2.6	Slides clearly identified and linked to the sample vials and sample data sheets by unique sample ID and specimen ID	NO	There was no indication on the data sheets that any specimens were slide-mounted, therefore no linkage between slides, vials or data sheets could be made.
2.7	Taxonomic data sheet indicates when specimens are removed from sample vial for any reason (e.g., placed in reference collection or send to extramural expert).	YES	Data sheets clearly indicate which specimens were verified or removed for reference collection.

2.8	Taxa collapsing routine conducted per SOP SCI 2100 section 4. or LT 7040. Original and collapsed taxonomic lists maintained.	YES	
2.9	Documentation available for items listed in SCI 2110	NO	The number of slides or the individual organisms mounted were not identified on the data sheets. Did not evaluate identification of archived vials or slide-mounted organisms.
3. Sample sorting QC (SCI 2210, LQ 7410) - *Applies to processing for SCI, LCI, WCI, Hester-Dendy, dredge or core samples*		***Refer to sorting efficiency tracking records, corrective action protocol, list of analyzed samples, and raw bench sheets to address the following requirements.***	
3.1	Sorting efficiency check conducted for a minimum of 10% of aliquots per sample.	N/A	Records requested by DEP were from 2012. This sample was processed in 2013, therefore it was not evaluated for this particular sample.
3.2	Sorting efficiency calculation conducted per SOP (LQ 7410 1.4).	N/A	See 3.1 above.
3.3	Sorting efficiency tracked for each analyst.	N/A	See 3.1 above.
3.4	Cumulative sorting efficiency 95% or greater for each analyst.	N/A	See 3.1 above.
3.5	Precautionary measures taken when single-analyst cumulative sorting efficiency falls below 95%.	N/A	See 3.1 above.
3.6	Corrective action taken when single-analyst cumulative sorting efficiency falls below 90%.	N/A	See 3.1 above.
3.7	Documentation available for items listed in SCI 2211.	N/A	See 3.1 above.
4. Taxonomic identification QC (SCI 2220, LQ 7420) - *Applies to processing for SCI, LCI, WCI, Hester-Dendy, dredge or core samples*		***Refer to taxonomic QC tracking records, corrective action protocol, list of analyzed samples, and raw bench sheets to address the following requirements.***	
4.1	For freshwater sampling, identify taxa to the lowest practical taxonomic level as listed in Table LT 7900-1 or SCI 2230.	YES	Some groups were not identified to the taxonomic level required in Table LT 7900-1 but explanations were given in the notes.
4.2	Quality control performed on 5% of samples (or SCI replicates), per LQ 7420 section 3.	YES	Records indicated that a taxonomic QC was performed on 1 of 12 samples (8%).
4.3	Taxonomic discrepancies associated with the QC check resolved through use of extramural expert when needed. (May only be able to evaluate this element if corrections were made on bench sheet).	YES	

4.4	The single-analyst cumulative correct identification rate is 95% of the total number of individual organisms and 95% of taxa identified in all samples or subsamples enumerated by the analyst (5% cumulative error rate over 12 months).	YES	Information on cumulative identification rates was not provided but Information for the latest QC sample was provided and the analyst achieved 97% correct IDs. Since this was the only one available for 2012, this aspect is satisfied.
4.5	Documentation available for items listed in SCI 2221.	YES	Information on cumulative identification rates was not available because this was their first Taxonomic QC sample. The information provided for this sample/analyst showed 97% correct IDs.
5. SCI Index calculation (SOP SCI 2100 section 5.) - *Applies to SCI only. Additional checklist would be needed for other indices.*		***Refer to SCI metric and index calculation records to address the following requirements.***	
5.1	Taxa correctly labeled as long-lived, sensitive, and very tolerant per SOP SCI 2100 section 5.1-5.3	YES	All taxa were accurately categorized.
5.2	Taxa correctly assigned to the following taxonomic groups, as required for metric calculations in SOP SCI 2100 section 5.4: Ephemeroptera, Trichoptera, Tanytarsini tribe.	YES	See Section 5.1.
5.3	Taxa correctly labeled as having a clinger or filter feeder habit, per Merritt and Cummins, An Introduction to the Aquatic Insects of North America (SOP SCI 2100 section 5.5).	YES	See Section 5.1.
5.4	Sample correctly assigned to SCI region	YES	
5.5	Metrics and index calculated for each replicate following instructions in SOP SCI 2100 Table SCI 2100-1 and steps 1-6 following the table.	YES	DEP had provided feedback on their SCI metric calculations and Terra has since incorporated this into their sample processing, these samples, however, were processed prior to them receiving that feedback and reflect the incorrect methodology. Terra will recalculate SCI scores for any sample where the incorrect calculations were employed.
5.6	Did this sample compare well with most recent DEP samples at this site?	YES	Taxonomy compares well overall with DEP samples. Overall score, individual metrics, and taxa lists were very similar to samples collected by DEP Staff.

Deficiencies noted and Corrective Action Approved			
	Performance Assessment Remarks	**Terra Laboratory Explanation and/or Corrective Action**	**Approved by AEQA auditors**
2.2 (Samples 1, 2)	The numbers of individuals between the original and collapsed taxa lists were different from one another. Although these differences were slight and did not appear to affect the metric calculations, care must be taken to obtain accurate counts.	Terra will verify these numbers to ensure that counts are accurate and consistent between taxa lists.	4/11/14

2.6 (Sample 2)	Slides were not identified or linked to the sample vials and sample data sheets by unique sample ID and specimen ID. No linkage between slides, vials or data sheets could be made.	Slides were used for identifying some of the taxa in this sample. Terra will ensure that this is documented for future samples.	4/11/14
2.9 (Sample 2)	The total number of mounted slides was not indicated.	Slides were used for identifying some of the taxa in this sample. Terra will ensure that this is documented for future samples.	4/11/14
3.3 (Sample 1)	The cumulative sorting efficiency per analyst was not tracked or provided.	Terra agreed that they do not have cumulative sorting efficiency records for each analyst, but stated that cautionary or corrective action is always taken when a sample falls below 95% and 90% efficiency, respectively. They did not make note of this on the QA/QC forms that were submitted but would add a line to their QA/QC forms for a written description of cautionary or corrective action taken when an individual scores below 95% or 90% efficiency. They agreed to track cumulative sorting efficiency records from this time forward.	4/11/14