Introduction

This response to comments matrix was prepared to address comments from the United States Environmental Protection Agency (USEPA) dated November 25, 2013 on the Streamlined Ecological Risk Assessment for the OU-1/OU-2 Portion of Snow Creek (OU-1/OU-2 SERA) dated June 2013 (Revision 1). The responses provided below are focused on revising the OU-1/OU-2 SERA recognizing that many of the USEPA's comments are focused on the Baseline Ecological Risk Assessment that will be prepared for the OU-4 portion of the Site (OU-4 BERA). In responding to the comments, specific reference is made as to whether the OU-1/OU-2 SERA is being revised in response to the comment or whether the comment will be taken into consideration during the development of the OU-4 BERA.

Comments:	**Response:**
General Comment 1. The presentation of the development of bioaccumulation factors (BAFs) has improved with corrections to the tables in Appendix A and addition of the correlation analysis among variables. EPA has remaining concern that none of the regressions were significant. EPA has provided an alternative analysis by using normalized data and pairing tissues. The results by EPA's alternative analysis are similar to BAFs provided in the BERA (Table 1). EPA is asking for the alternative BAF approach provided in Attachment 1 to be considered in the OU-4 BERA. The BAF EPA recommends for emergent insects is difference from the value in the SERA. A specific comment is included to address bioaccumulation in emergent insects.	This comment will be considered as part of developing the baseline ecological risk assessment for Operable Unit 4 (OU-4 BERA). The USEPA comment regarding the bioaccumulation factor (BAF) for emergent insects is being addressed in response to Specific Comment No. 9 and is resulting in a change to the OU-1/OU-2 SERA.
General Comment 2. The uncertainty section (Section 6.3.2, Bioaccumulation Factors, Page 6-11) should mention that the biological data used for the bioaccumulation factor development was collected in OU-4, and no OU-1/OU-2 specific biological data was available for the SERA.	The first sentence in Section 6.3.2 has been revised as follows: "Because specific biological data were not available for OU-1/OU-2 and, therefore, prey tissue concentrations were not measured in OU-1/OU-2, it was necessary to model prey tissue concentrations using an uptake model based on biological data collected in OU-4."
General Comment 3. Appendix D has characterized the composition of PCBs at the site as essentially devoid of PCB congener 126 based on limited data for OU-1/OU-2 and without considering the data collected in OU-4 for toxicity testing, where PCB Congener 126 was frequently detected. A specific comment has been included to address this issue. Attachment B provides technical details relating to how the PCB	It is P/S's belief that PCB congener 126 (PCB-126) does not present significant risk concerns for OU-1/OU-2. This finding is based on: · Lack of consistent detections for PCB-126 in the dataset for the Site.

congener data can be used to refine the characterization of ecological risk. The comment recommends using toxicity reference values derived for the Aroclors that contain the most dioxin-like PCBs, which was the approach taken in the SERA.	· PCB-126 was not manufactured at the Anniston facility. These lines of evidence are further discussed in response to specific comment 15 below.
Specific Comment 1. Section 2.3., Conceptual Site Model, Figure 2-2. Figure 2-2 was revised to depict the surface water pathway as de minimus. In Section 2.3, Page 2-6, the discussion of complete exposure pathways reads, "Because water-based exposure to hydrophobic COPCs, in particular PCBs, is expected to be minimal compared to sediment-based exposure, this pathway is considered a secondary pathway. . ." The text in Section 2.3 describing the role of surface water, sediment, and bioaccumulation in the conceptual site model could be better explained. The discussion should differentiate between direct and indirect exposure. Please consider revising patterning after sample text: "The particular COPCs at this site are relatively insoluble in water and tend to adhere tightly to sediments. Thus, the bioaccumulation models used in the risk assessment compared concentrations in prey tissues to concentrations in the sediment. Because direct exposure to wildlife to PCBs in surface water is expected to be minimal, compared to exposure through bioaccumulation in the food web, ingestion of surface water is considered a secondary pathway for birds and mammals feeding in Snow Creek. The benthic invertebrate community is directly exposed to COPCs in sediments and surface water. Potential risk to populations and communities of aquatic organisms through direct exposure to surface water is evaluated in Section 3.2 through comparison of available surface water data to National recommended water quality criteria for protection of aquatic life."	The third paragraph in Section 2.3 of the OU-1/OU-2 SERA has been revised as follows: "Complete exposure pathways can be further delineated into those expected to have more significant exposure potential (primary exposure pathways), those that are complete but are expected to be minimal compared to the identified primary exposure pathways (secondary exposure pathways), and those expected to be insignificant due to minimal or unappreciable exposure potential (*de minimus* exposure pathways). For aquatic-feeding receptors, the potential exposure routes are direct contact with the COPC in water or sediment and ingestion of food. The particular COPCs at this site are relatively insoluble in water and tend to adhere tightly to sediments. Thus the bioaccumulation models used in the risk assessment compared concentrations in prey tissues to concentrations in the sediment. Because direct exposure of wildlife to PCBs in surface water is expected to be minimal, compared to exposure through bioaccumulation in the food web, ingestion of surface water is considered a secondary pathway for birds and mammals feeding in Snow Creek. The benthic invertebrate community and communities of aquatic organisms may be directly exposed to COPCs in sediments and/or surface water. Potential risk to populations and communities of aquatic organisms through direct exposure to surface water is evaluated in Section 3.2 through comparison of available surface water data to National recommended water quality criteria for protection of aquatic life."
Specific Comment 2. Section 3.2, Surface Water Data, Page 3-4. Text indicated that PCB contributions from Snow Creek were negligible. The word "negligible" reflects a value judgment. The concentrations of PCBs in the baseflow samples were above the National recommended water quality criteria half the time. High flow events might transport PCBs in	The 4th paragraph in Section 3.2 of the OU-1/OU-2 SERA has been revised as follows: "Based on data collected during the RCRA program, the high flow data are short-term in nature and not appropriate for evaluating long-term

Snow Creek. Uncontrolled migration of PCBs from the site might be unacceptable, if this were occurring. Text should simply state that PCB transport under high flow conditions is much greater than during baseflow.	exposures to creek water. The surface water data also indicate that during base-flow conditions, PCB contributions from Snow Creek are low and PCB transport under high flow conditions is greater than during base-flow conditions."
Specific Comment 3. Section 5.2, PCB Sediment Benchmarks, Page 5-1. The section title and some of the text was not changed to reflect the site-specific, risk-based concentration (SSRBC) terminology. Table 5-1 was not changed for the new terminology.	The heading level for Section 5.2 of the OU-1/OU-2 SERA has been revised to be a sub-heading of Section 5.1 and is now 5.1.1. The heading title for this section has been revised to: "Sediment PCB Site-Specific Toxicity Values" ". This terminology was also added to Table 5-1. See response to specific comment 4 for the text changes to this section.
Specific Comment 4. Section 5.2, PCB Sediment Benchmarks, Page 5-3. Text at the bottom of Page 5-3 indicated that the EC20* was chosen as the low toxicity threshold due to the variability in the responses among the two cycles of testing and due to the test acceptability criteria for control mortality. This is a value judgment. Therefore, EPA has requested that the SSRBCs be developed for the threshold, 10, and 20 percent impairment relative to the reference envelope. The text should not say the EC20* "was chosen" because it is EPA's role to choose the cleanup level.	The following text replaces the text after the 8^{th} paragraph in Section 5.1.1 of the OU-1/OU-2 SERA: "Toxicity values were developed for the EC0*, EC10* and EC20* values. The ultimate selection of sediment cleanup levels by the USEPA may in part be based on this range of effect levels and might consider the variability in the responses among the two cycles of testing and the test acceptability criteria for control mortality." The OU-1/OU-2 SERA was also revised to reflect that the EC0* for *H. azteca* of 1.38 mg/kg dw was selected as the low SSRBC for PCBs, and the *H. azteca* EC20* of 4.43 mg/kg dw was selected as the high SSRBC for PCBs. While the OU-1/OU-2 SERA was not revised to include the following text, P/S believe the points made below should be considered in the EPA's selection of a sediment cleanup value for Snow Creek sediment. Specifically, the variability in responses among the three lab-control sediments (using the same sediment) between the two cycles of testing was frequently greater than 20%. Additionally, according to USEPA (2000), the test acceptability criteria for *H. azteca* are a minimum mean control survival of 80% and a measurable growth of

	test organisms in the control sediment, and for *C. tentans* (a chironomid closely related to *C. dilutus*) are a minimum mean control survival of 70% and a minimum mean weight per surviving control organism of 0.48 mg ash free dry weight. Therefore, extrapolating from variability in survival to variability in all endpoints (recognizing that variability in growth and reproduction endpoints is generally higher than variability in survival endpoints), it is reasonable to consider that less than or equal to a 20% apparent adverse effect relative to the "bottom" of the reference envelope (i.e., any PCB concentration less than or equal to the EC20* value) is within the range of normal control variability and therefore has a moderately high probability of being a false-positive result, leading to minimal concern about such toxicity results. Even if a given effects concentration between the EC0* and EC20* were real instead of just a result of random variability, the USEPA's (2000) implicit acceptance of up to at least 20% mortality as a *de minimus* risk supports consideration of the EC20* as a low toxicity threshold." The following text was also included at the end of Section 5.1.1 of the OU-1/OU-2 SERA. "The most sensitive endpoints for *H. azteca* related to reproduction (the lowest EC0*, EC10*, and EC20* values [i.e., 0, 10, and 20%-impairment beyond the "bottom" of the reference envelope]) were 1.38 (the EC0*), 2.58 (the EC10*), and 4.43 (the EC20*) mg $tPCB_A$/kg dw of sediment for 42-d young/female normalized to 42-d survival (Appendix B, Table B-1). The most sensitive endpoints for *C. dilutus* were related to emergence (the lowest EC0*, EC10*, and EC20* values were 2.04 [the EC0*], 6.80 [the EC10*], and 14.3 [the EC20*] mg $tPCB_A$/kg dw of sediment, for percent emergence of the pupae from their cocoons; Appendix B, Table B-1). The adult biomass endpoint for *C. dilutus* that was reported by the laboratories is not included as it was based on estimated instead of measured weights of adult *C. dilutus*, thus making that endpoint highly uncertain. Based on this analysis, a range of toxicity values are considered. Specifically, the EC0* (1.38 mg/kg) and EC20* (4.43 mg/kg) toxicity

	values for the most sensitive endpoint and species from the site-specific toxicity testing are compared to Site PCB data in Section 6."
Specific Comment 5. Section 5.2, PCB Sediment Benchmarks, Page 5-4. Also, on Page 5-4 at the end of this section, the text recommends the second highest EC20* for C. dilutes emergence as the high end benchmark. The second highest EC20* is less conservative because it is for a different organism. The remedy should be protective of most species of organisms. Since only two species were tested, the results for the most sensitive species should be used to develop the range of preliminary remedial goals based on the threshold, 10, and 20 percent impairment values. A range should be presented. Text presenting a particular value within the range as the choice of the SSRBC should be removed.	See text changes in the response to specific comment 4 above that addresses this comment. Tables 5-1, 6-3, and 6-4 of the OU-1/OU-2 SERA were changed to reflect this change of the SSRBC range. The description of SSRBC exceedances in Section 6.1.3 and the findings in Section 6.4 were also updated accordingly. In addition, text in appendix B was updated to be consistent with changes reflected in responses to specific comments 4 through 6.
Specific Comment 6. Section 5.2. Toxicity of site sediments should be compared to the reference condition.	A matrix table showing which OU-4 sediments selected for the testing program exceeded the reference envelope response for each endpoint of each species has been inserted into Appendix B of the OU-1/OU-2 SERA. The following text has also been added to the 2nd paragraph in Section 5.1.1 (formerly 5.2) to clarify that "The purpose of the toxicity tests was to develop concentration-response relationships for the various *H. azteca* and *C. dilutus* endpoints, not to determine which specific sediments across the Site (including OU-1/OU-2 and/or OU-4) were toxic. The sediments selected for the toxicity testing program were not randomly chosen, but instead, were collected from a few targeted locations to provide a wide range of combinations of PCB and OC concentrations were tested. For those reasons, it is not appropriate to compare the test sediments to the reference condition, but the toxicity test results will be used as intended to identify a range of concentration-based toxicity thresholds." Additional information regarding the selection of the reference sites is provided in the response to Specific Comment 8.

Specific Comment 7. Section 6.1.3, SSRBC Comparisons, Page 6-4. The EC20* for C. dilutes emergence is described as the LOAEL for benthic invertebrates, which it is actually not the case. Both the EC20* for amphipods and the EC20* for midges are LOAELs. They are LOAEL values for different species. The EC20* for C. dilutes does not account for exposure to the more sensitive benthic invertebrate species. The NOAEL to LOAEL range in Table 6-4 should be the threshold to EC20* values for the amphipod endpoint, i.e., the EC0* and EC20* values of 1.38 and 4.43 mg/kg. Text at the top of Page 6-4, which indicated that the LOAEL SSRBC for benthic invertebrates was not exceeded, should be revised.	The first two sentences of the third paragraph in Section 6.1.3 of the OU-1/OU-2 SERA have been revised as follow to be consistent with the revised range of toxicity values (i.e., the EC0* for *H. azteca* of 1.38 mg/kg dw and the *H. azteca* EC20* of 4.43 mg/kg dw that are described in the response to Specific Comment 4 above): "For benthic invertebrates, the 95% UCL concentration for PCBs exceeded the EC0* and the EC20* for the most sensitive endpoint and species tested in the site specific toxicity tests (i.e., *H. Azteca* 42-d young/female normalized to 42-d survival) , with 47 and 74 percent of samples exceeding these values respectively."
Specific Comment 8. Section 6.3.3.1. ARCADIS selected the candidate reference sediments for the study after having evaluated the locations and concluding that the sediments were appropriate. Why are these sediments now in question? The language that calls into question the reference locations proposed by ARCADIS and the data associated with them needs to be eliminated from this document.	It seems appropriate to include some discussion in this uncertainty section regarding the nature of these reference sediment samples that were collected in areas upstream of the Site and were by design, void of any background contamination associated with the Snow Creek drainage basin that may be associated with the test samples that were collected for the toxicity testing program. The reference sites were selected using criteria specified by the USEPA during the development of the Phase 2 Field Sampling Plan for OU-4 (OU-4 Phase 2 FSP). Although the reference location habitats were generally comparable to locations in OU-4, minus the influence of urban drainage, the reference sites were selected to be void of all contamination. This included a phased analytical program during which samples were first analyzed to ensure that PCBs were not detected. After these initial analyses confirmed that PCBs were not present in these candidate reference areas, samples were analyzed for an expanded list of chemical constituents. The results of those analyses were communicated to the USEPA, and locations with the lowest concentrations of chemical constituents were selected as reference sites with the USEPA's concurrence. Although sediments from these reference sites were used during the sediment toxicity testing program, they were used with a goal of developing a PCB concentration-response relationship and do not represent conditions

	in OU-4 minus any impacts that may be attributable to P/S. No change made to text. The text referenced is in the uncertainty section and as such describes the uncertainty associated with the reference sediments. The initial two paragraphs of Section 6.3.3.1 have been revised as follows…" Uncertainty in the sediment-toxicity benchmarks (EC0*, EC10*, EC20*, and EC50* values) has five components: (1) whether the reference sediments collected in areas that are located upstream of the Site reflect background chemical constituents that are not associated with P/S (i.e., urban runoff from the Snow Creek watershed); (2) whether the lowest measured reference-sediment response for a given toxicity endpoint adequately represents the lowest response that would be caused by a reference sediment; (3) variability in the calculated EC0*, EC10*, EC20*, and EC50* values; (4) inherent variability in results of toxicity tests; and (5) potential variability between batches of toxicity tests conducted at different times and in different laboratories a considerable length of time after the sediments were collected from OU-4. These five potential sources of uncertainty are discussed below. Regarding the first uncertainty, the six reference sediments collected from Choccolocco Creek approximately 3 kilometers upstream of its confluence with Snow Creek came from an agricultural area that does not receive urban inputs. Therefore, the reference sediments do not have physical-chemical characteristics of an urban-influenced stream (Snow Creek) and might underestimate the toxicity caused by chemicals that originated from non-Site sources, thus, overestimating the toxicity caused by inputs originating from the Site."
Specific Comment 9. Appendix A, Section 2.2.2. Emergent Insects, Page 5. The text acknowledges that the observed bioaccumulation into crane flies from two Upper Choccolocco Creek stations was much higher than observed for damselflies (Figure A-12) or from a sample of crane flies mixed with miscellaneous winged insects collected from EMA-02. EPA	It is agreed that a median value may not be appropriate for estimating a central tendency when the data are from two separate populations. As such, for the OU-1/2 SERA, an alternative approach of averaging results from the two populations of data was employed. The text in Section 2.2.2 of Appendix A to the OU-1/OU-2 SERA was replaced with

agrees that averaging across both species reflects a possible diet. However, the average BAF in Table A-6 was 3.67. The SERA risk calculations used the median BAF of 0.66, which was much lower and reflected only the damselfly data in Figure A-12. The green line on Figure A-12 passes through the data points for the damselfly data and does not fit the description of averaging across both species, which would have been the case if the green line passed between the groups of data. The median BAF is calculated correctly, but a median value only works when the data is from the same population. EPA recommends evaluating the BAFs for crane flies and damselflies separately and averaging the results to reflect a diet that contains both insects.	the following: "Emergent insects that were collected consisted primarily of crane flies (Tipulidae), damselflies (Odonata), and dragonflies (Odonata). Three composite samples were collected from each of the nine BSAs for a total of 27 samples from OU-4. Nine of the 27 composite samples contained crane flies as well as other species. Six of the composites, all of which were taken with in EUA 02 and EUA 03, contained crane flies only and these samples had PCB concentrations that were substantially higher (5.8 to 7.8 mg/kg dw) than concentrations in the mixed samples, which ranged from 0.1 mg/kg dw to 0.8 mg/kg dw. Because the samples that contained mixtures of species, which included crane flies, did not contain higher PCB concentrations than samples containing only dragon or damsel flies, there appears to be substantial uncertainty associated with the exposure of crane flies. This uncertainty is discussed in Section 6.3.2 of the OU-1/OU-2 SERA. Because the crane fly only PCB data appear to be a separate population from the mixed species data, the approach for calculating emergent insect BAFs is modified from the approach used for other tissue types as described below. As was done for the other tissue types, the arithmetic mean of composites within each BSA was taken and associated with the arithmetic mean of the sediment sample concentrations for that BSA for the analysis for a total of nine discrete tissue and sediment concentration estimates. For PCBs, the regression analyses were conducted for mixed species samples only as the sample size for crane fly only samples (n=2) was too small to conduct a regression. The regression analyses for mixed species PCBs and all samples for mercury did not result in a predictive relationship between sediment and emergent insect tissue on a dry weight or on an OC and lipid normalized (PCB only) basis (Figures A-12 and A-13, respectively). Similarly, the additional correlation analysis (Tables A-21 through A-24) did not indicate a predictive relationship between sediment on a percent fines normalized basis or emergent insect tissue on a wet weight basis. Based on this analysis and the lack of a predictive

	relationship between sediment and tissue, it was necessary to calculate BAFs. Because of the different populations of data for PCBs, a median BAF is not recommended. Alternatively, a mean BAF for the mixed samples was calculated separately from the mean BAF for crane flies only. The "mixed diet" BAF was calculated as a weighted average with 22 percent (i.e., the percent of samples collected that were comprised of only crane flies) of the BAF being represented by crane flies only and the remaining 78 percent represented by mixed species. This is considered a conservative proportion based on the survey data collected in 2006 and 2007 and reported in the Operable Unit 4 Ecological Survey Report (ARCADIS BBL 2007). These survey results showed that of the 60 survey sample locations, crane flies were found in only four locations (7%) compared to odonates, which were found in 30 locations (50%). The resulting weighted mean BAF is 3.8 and is shown relative to the tissue data on Figure A-30. The selected BAF for mercury is the median value of the BSAs." Tables 4-1 (BAF summary), 6-1 (Avian SSRBC calculations), 6-2 (mammalian SSRBC calculations), 6-3 (SSRBC summary), and 6-4 (Summary of SSRBC exceedances) from the OU-1/OU-2 SERA were updated accordingly. In addition, the results described for avian and mammalian receptors in Section 6.1.3 and 6.4 were updated accordingly with the revised results for receptors that consume emergent insects. The following text was also added to the Uncertainty discussion and will replace the 5th paragraph in Section 6.3.2 of the OU-1/OU-2 SERA. "To better understand this uncertainty and the disparity between concentrations, natural history of the orders collected was reviewed. There are thousands of species of crane flies, dragonflies and damselflies, but in general, crane flies primarily feed on vegetation and algal and microscopic organisms low in the food chain. They can also feed and reside in both aquatic and terrestrial environments. This is in contrast to odonates, which are mainly predaceous and prey upon

	various trophic levels within the food chain throughout their nymph development stage and on insects in their adult stage. This information is not consistent with the observed concentrations, as species feeding lower in the foodchain (e.g., on plant matter) would not be expected to be exposed to higher PCB concentrations than species that are predators. Because some species of crane flies can be terrestrial, a possible connection between the crane flies and the riparian soil adjacent to EUA-02 and EUA-03 was considered. Calculating a mean soil concentration and comparing that to the tissue concentrations in these areas results in BAFs that are more consistent with what was observed in other samples, but the BAFs are still relatively high (e.g., 1.4 and 1.8 for crane flies only compared to 0.3 to 0.8 for mixed species). Based on the feeding strategy for crane flies, it seems unlikely that the sediment in EUA-02 and EUA-03 is the source of the elevated PCB concentrations measured. Comparing the crane fly results to those observed at another PCB River site (i.e., the Kalamazoo River), indicates that the BAFs for dipteran species are very consistent with the BAFs observed for mixed species in this OU-1/OU-2 SERA (e.g., on a wet weight basis, mean OU-4 BAF = 0.17 and mean Kalamazoo BAF for all emergent insects = 0.18). This further supports that the six crane fly samples collected within EUA-02 and EUA-03 may not be appropriately representative of aquatic emergent insects. However, the selected BAF is intended to represent uptake across a range of insects and it is recognized that upper trophic level receptors do not differentiate between aquatic and terrestrial insects when feeding. Given that the crane fly PCB data are uncertain, the selected BAF may over- or underestimate potential uptake for these species." While the averaging approach outlined above has been incorporated in the OU-1/OU-2 SERA, the underlying uncertainties associated with this approach will be considered further and the approach may be modified for the OU-4 BERA.
Specific Comment 10. Appendix A, Table A-2. PCBs were not detected in frogs from the reference stations. Please correct Table A-2 to show the	The toad was collected from the floodplain and adult toads are generally considered terrestrial species, therefore this single sample

[frog] PCB concentrations at ERA-02 in red text. PCBs were detected in an American toad from ERA-03 but were not detected in frogs. Table A-2 does not use the toad data. Toads were only collected at ERA-03. Please resolve whether the toad data should be ued.	was not included with the aquatic tissue results summarized in Table A-2. Table A-2 has been updated to show ERA-02 frog non-detect data as red text.
Specific Comment 11. Table A-21, Correlation Analysis. Please check the table. Some of the correlation coefficients I was unable to reproduce.	The correlation coefficients in Table A-21 have been rechecked and verified. No changes have been made to Appendix A of the OU-1/OU-2 SERA. There is a possibility that the USEPA may be working with a slightly different dataset and as the forthcoming OU-4 BERA is prepared, it will be important to confirm that the USEPA has the same dataset as P/S.
Specific Comment 12. Appendix A. An alternative approach to developing BAFs is to seek the relationships offering the most correlation by excluding an outlier, using normalized data for biota and sediment, using lipid-normalized tissue data with non-normalized sediment data, or by regressing the concentration in one type of biota by its presumed food source. For example, if Sample ELA-02 is removed from the lipid-normalized bioaccumulation of PCBs in aquatic plants, the correlation coefficient jumps to 0.77. The question is whether it is better to find a significant regression to estimate the BAF and use the average lipid content in aquatic plants to convert the BAF into the non-normalized value. The similarity in the results between the approach of using the median of BAFs and the graphical approach is encouraging. The median approach to developing BAFs may slightly underestimate the BAF by not weighing as heavily the few samples with higher observed bioaccumulation compared to the regression approach. This data weighing effect was especially pronounced in the case of the BAF for the emergent insects. The median BAF approach is not recommended for the emergent insects and is discussed in another comment. Alternative approaches to estimating the BAFs with regression equations are provided in Attachment A.	This comment will be considered as part of developing the OU-4 BERA.
Specific Comment 13. Appendix B. Page 8. Delete statement that MacDonald et. al. is not appropriate. Take out conclusions about appropriate range. It is appropriate to state strengths and weaknesses of each method but not to make conclusion.	The statement regarding MacDonald et al. and the conclusions regarding the appropriate range have been removed from the OU-1/OU-2 SERA.

Specific Comment 14. Appendix D. Page D-12, last sentence. Re-write to remove statement that risk is negligible. EPA agrees that no further ecological assessment is required.	The statement was removed as requested.
Specific Comment 15. Appendix D. Page D-14, Bullet 6, indicated that PCB congener 126 was detected in two out of 27 samples. However, PCB-126 was detected with greater frequency in the samples used for the OU-4 toxicity testing, which targeted sediments with higher PCB concentrations. PCB-126 should not be assumed negligible or absent. The SSRBCs for dioxin/furans in Appendix D are correct and are appropriate to use for dioxins/furans. Text should be revised to qualify statement about presence of PCB-126 in OU-1/OU-2 sediments. Please see supporting information in Attachment B.	It is P/S belief that PCB congener 126 (PCB-126) does not present significant risk concerns for OU-1/OU-2. This finding is based on: · Lack of consistent detections of PCB-126 in the dataset for the Site. · PCB-126 was not manufactured at the Anniston facility. These two lines of evidence are further discussed below, and the following text was included in Appendix D of the OU-1/OU-2 SERA. "The limited detection of PCB -126 is also supported by the floodplain soil data collected in OU-1/OU-2 and OU-4. PCB-126 was only detected in 12% of the floodplain soil samples (25 of 212) collected from these two OUs and analyzed for this particular congener. The analytical results for PCB-126 in the sediment samples are similar with this congener only being detected in 15% (5 of 33) of the samples collected from these two OUs. In considering the effect of the other PCB congeners that comprise the list of dioxin like PCB congeners, the potential presence of congeners PCB-77, PCB-81 and PCB-169 is often considered. In addition to PCB-126, these other non-ortho substituted PCB congeners have the largest effect on the calculated risk levels. The frequency of detection for these three congeners for the OU-1/OU-2 and OU-4 dataset includes PCB-77 at 9%, PCB-81 at 8% and PCB-169 at 1%. These detection frequency percentages are based on all of the sample results inclusive of parent and duplicate samples. This approach was necessary as the PCB congeners were sometimes not detected in both the parent

	and duplicate samples. The collective frequency of detection for sediment in these two OUs includes PCB-77 at 15%, PCB-81 at 15% and PCB-169 at 0%. While the frequency of detection of PCB-126 is higher (42%) in the 29 analyses that were conducted for sediments collected for the sediment toxicity and bioaccumulation testing program, these analyses were conducted on samples that are not representative of Site conditions and will not be used for defining the nature and extent of contamination in the yet to be developed OU-4 Preliminary Site Characterization Summary Report and the OU-4 Remedial Investigation Report. These sediment samples were initially sieved in the field, re-handled and re-stored several times at the sediment toxicity testing laboratory over a nine month period and the same parent samples were often re-mixed and reanalyzed. It is noteworthy that PCB-126 was only detected when the total PCB concentrations were elevated. Of the 11 of 26 samples where PCB-126 was detected, nine of the samples had total PCB concentrations greater than 25 mg/kg and two of samples had total PCB concentrations between 5 and 10 mg/kg. In any of these cases, the total PCB concentration would be the risk driver and the potential presence of PCB-126 would not be a significant consideration. Concentrations of the other non-ortho substituted PCB congeners (PCB-77, PCB-81 and PCB-169) were also not detected in any of the sediment samples collected for the sediment toxicity and bioaccumulation testing program. The limited presence of PCB-126 in the Anniston area is also supported by research published in the mid-1990s (Frame et al. 1996). This research indicates that PCB congener PCB-126 was only detected in measurable concentrations in what is referred to as “late Aroclor 1254”. This particular mixture only was manufactured from 1974 to 1977 and based on the PCB

	production dates for the Anniston facility, was not produced in Anniston. The lines of evidence presented above support the finding that PCB-126 is not a significant risk contributor for OU-1/OU-2 or OU-4. This finding is consistent with the human health risk assessments that were prepared for OU-1/OU-2 and OU-4 by the USEPA (CDM, 2010b and JM Waller and Associates, Inc. 2013)."