THE CITY OF SAN DIEGO

April 5, 2010

Electronic Delivery to: TAlo@waterboards.ca.gov

Tom C. Alo, Water Resource Control Engineer
Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Reference: Comments on Risk Assessment, Appendix A Dated March 2, 2010, Geosyntec Consultants

Dear Mr. Alo:

The City of San Diego (City) Storm Water Department is pleased to provide the San Diego Water Quality Control Board, Region 9 (Regional Board) with comments regarding Draft Risk Assessment, Appendix A Dated March 2, 2010. This report was prepared to supplement a site-wide risk assessment, finalized in February 2008, which evaluated the potential human health risks on the site from residual chemicals in soil and groundwater. An ecological risk assessment was not performed at the time since no ecological receptors were identified. This risk assessment supplement addresses the potential for chemical migration from 2701 North Harbor Drive, San Diego, CA (Site) to the Convair Lagoon and the potential if there is chemical migration, that chemical concentrations may cause adverse effects.

Our general comments are described in the following sections. Specific comments are provided in a table included with this document.

Stated Focus of Draft Risk Assessment Appendix A

The stated focus of Appendix A is to address sediment and groundwater exposure and transport pathways from potential landside impacts associated with the TDY site to the Convair Lagoon. However, the focus of the document appears to be more limited in scope than what was stated in the introduction. Evaluation of potential impacts from the TDY site to the Convair Lagoon were based primarily on small quantities of metals and PCB data collected within the past 24 months from the vicinity of the Convair Lagoon and two of the four stormwater conveyance systems (SWCS), the 54-inch and 60-inch SWCS. These datasets are very limited on a spatial and temporal basis, and the ability to use these data to determine if the presence of these chemicals is related to the TDY site, some other site, or any site, is questionable. The data should have been

evaluated in combination with upgradient historical datasets and the more comprehensive volatile organic compound (VOC) and semivolatile organic compound (SVOC) datasets collected in the vicinity of the Convair Lagoon. As a consequence, the conclusions presented regarding whether a particular exposure and transport pathway is complete, potentially complete, or incomplete, and whether metals and poly chlorinated biphenyls (PCBs) reported in the vicinity of the Convair Lagoon are related to the TDY site are not sufficiently documented. The focus of the document appears to be simply proving that metals and PCBs reported in groundwater in the vicinity of the Convair Lagoon are not related to landside impacts on the TDY site.

No On-Site Ecological Risk Assessment was Included

We presume that exposure pathways to ecological receptors were not complete due to the presence of barriers to the soil such as asphalt, concrete, and buildings. The planned removal of all aboveground structures and concrete slabs suggests that previously covered soils will now be exposed, potentially providing habitat at least initially for terrestrial invertebrates and plants. The description of site demolition activities in Section 1 suggests potential temporary site conditions have been identified. The duration of these temporary site conditions is either unknown or not specified. If site re-development activities have not yet been planned, then the existing conditions (post-demolition) should be evaluated for potential ecological exposures and risk.

Exposure Pathway Determination and Receptor Populations

The identification and evaluation of exposure and transport pathways associated with the TDY site and the Convair Lagoon conceptual site model (CSM) should include the SWCS worker as evaluated in Section 5 of Appendix A and also include an onsite demolition worker. Risk to the recreator/fisher which was identified in Figure 1 as having complete exposure pathways was not evaluated and should be added to the risk assessment. Direct exposure pathways to the SWCS worker and onsite demolition worker should be added to the CSM. Volatilization of chemicals in sediment and/or groundwater was not discussed as an exposure pathway for onsite workers. In addition, due to the SWCS which can act as a preferential pathway, impacts to indoor air quality should be discussed as a potential exposure pathway.

For ecological receptors, the only ones listed in the CSM are aquatic organisms; however, both sediment benthic invertebrates and upper trophic level wildlife should be included. The exclusion of benthic invertebrates may be just a miscommunication in that they are intended to be included in the category "aquatic organisms." The organisms included in this category should be clearly noted.

Additionally, since PCBs are a particular concern because of their bioaccumulation and adverse effects to upper trophic level wildlife, terrestrial and aquatic dependent wildlife should be included as additional receptors. The designation of pathways as "complete," "potentially complete," and "incomplete" is not justified in the text, in which case all pathways identified as "incomplete" should be changed to "potentially complete."

Conceptual Site Model

The CSM as presented in Figure 2 does not appear to include all relevant model inputs. For example, it is unclear if the CSM represents all four SWCS or just the 60- inch SWCS. The interpretation of data and conclusions regarding potential impacts to the Convair Lagoon appear to focus solely on the 60-inch SWCS, even though some of the reported data associated with the 54-inch SWCS and 30-inch (East) SWCS may suggest that these two SWCS have or continue to potentially impact the lagoon.

The CSM shows SWCS flow only in one direction in those sections of the SWCS under the influence of tidal fluxes. Flow in those particular sections of the SWCS should be shown as bi-directional. The migration of contaminated, fine-grained sediments in the silt and clay size fraction discharged to the various SWCS from TDY conduits can be significantly influenced by tidal fluxes and storm surges into the SWCS from San Diego Bay and the Convair Lagoon. Fine-grained sediments, including entrained organic material, provide the largest amount of surface area for the adsorption and complexation of PCBs, metals, and other contaminants. This fraction will be the most impacted in the SWCS from tidal fluxes and storm surges. Because tidal fluxes in the SWCS probably migrate farther up the system than currently displayed, the potential impact from the migration of contaminated fine-grained sediments is potentially greater than suggested in the figure.

Also, the figure should include the presence of PCBs, metals, and other environmental contaminants on the clean cap and in the general Convair Lagoon area. The presence of any of these contaminants on the clean cap adjacent to SWCS discharge locations provide a potentially continuing source of contaminants back into the SWCS during incoming tides and storm surges.

The CSM also appears to suggest that PCBs detected in groundwater in the vicinity of the MWCL monitoring wells are from ambient, unidentified PCB sources (yellow background) similar to PCBs from atmospheric deposition. The data presented do not support the identification of such a source term. VOC, metals and PCB data for the area encompassed by the 60-inch and 54-inch SWCS suggest an anthropogenic source.

Migration of Groundwater to the SWCS

The discussion in Appendix A regarding this pathway should be supported by a figure and a table of the analytical data so that the reader can confirm the conclusions drawn. The discussion notes that hexavalent chromium and zinc exceed the CTR in one area of the site, but that groundwater between the area of this exceedance and the SWCS shows no exceedance. If no CTR exceedances of these metals occur in the Convair Lagoon surface water, it would provide some additional support to the conclusion that the site is not contributing to metals contaminants via this pathway to the lagoon. Surface water impacts to Convair Lagoon should be included as an exposure pathway and the appropriate data provided.

Migration of Backfill Material to the SWCS

As discussed in Appendix A, the mechanism by which backfill may enter the SWCS is the same mechanism by which groundwater enters the SWCS, and includes the case where groundwater is in contact with the SWCS where pipe joints occur. Since these data are related, they should be discussed together in the evaluation of this transport pathway.

Although the text states that seven sediment samples were collected on January 18, 2007, 26 sediment samples with the same legend icon as the seven collected are shown in Figure 4. The purpose of these other samples and their results should be discussed in the text. A table displaying this data should be provided, in addition to Figure 4, which clarifies the locations of the samples collected.

The source of the 10 milligrams per kilogram (mg/kg) sediment criterion discussed in the text should be clearly stated. We are aware that 40CFR761.61 cites a 10 mg/kg soil cleanup level for PCBs as appropriate for sites that are capped with concrete, asphalt, or similar material. However, the cleanup level is not applicable as a sediment criterion, and it appears from Figure 4 that more than two samples had concentrations in excess of 10 mg/kg. More appropriate sediment criteria might include the sediment background concentration of Total PCB congeners (0.084 mg/kg) and the target post-remedial surface weighted average PCB concentration (SWAC = 0.194 mg/kg) as reported in the Draft Technical Report (DTR) for the sediment cleanup at the San Diego Shipyards Site (December 22, 2009). These are regionally relevant sediment benchmarks that assure no unacceptable adverse risks may occur in upper trophic level wildlife or humans, which are more sensitive receptors than sediment invertebrates.

Although the report demonstrates that the 10 exterior soil samples collected were nondetect, it is not clear if the detection limits shown on Figure 4 apply to PCBs or to TPH, which is also referenced in the text. Therefore, confirmation cannot be made regarding whether the exterior soil concentrations are below appropriate sediment benchmarks. Further, 10 exterior soil samples may be insufficient presuming that the 10 mg/kg criterion is not an adequate benchmark for sediment.

Migration of Impacted Sediment in the SWCS

Appendix A correctly recognizes the need to control the migration of contaminated sediments into the SWCS and that further evaluation in the remedial investigation/feasibility study (RI/FS) is needed. The statement in the report that "...the outfall channel appears to act as an effective sediment trap to minimize sediment migration out the SWCS" is not relevant to a determination of whether the sediment that has been released has a potential to cause adverse effects to humans or wildlife that may use the lagoon.

PCB Data Availability and Quality

A significant issue regarding the ability to assess these transport pathways is based on limited data and the quality of the groundwater data collected for PCBs. PCBs are a primary constituent

of concern, and out of the 68 groundwater monitoring samples collected over the period December 2006 to January 2010 (Table 1), there are only PCB data for 15 samples (22 percent). All of these samples except for one had detected concentrations or a detection limit above the CTR, at least in part due to the interference of method blank concentrations of PCBs. All data were qualified as "adjusted due to method blank detections." Presumably the method blank concentration was subtracted from the concentration measured in each sample.

While a separate round of PCB groundwater data were collected from 33 site wells, as reported in Table 4, these wells are not presented in Appendix A, so their proximity to the other wells previously described in Table 1 and shown in Figure 3 is not known. Also, these data have similar data quality issues as the PCB data presented in Table 1 in that most of the data was non-detect and all detection limits were above the CTR of 0.17 part per trillion (ppt). While human health risk based concentrations are provided for each Aroclor, the data are most comparable to Table 1 if the Aroclor concentrations are summed to represent an estimate of the total PCB concentration and a comparison against the CTR criterion of 0.17 ppt. If done, the detected Total PCB concentration in well B120-MW2 is seven orders of magnitude above the criterion.

Given the historical lack of monitoring of PCBs in groundwater and the fact that very high concentrations were measured in a well in January 2010, a conclusion cannot be made as to whether these concentrations are consistent throughout the year. We conclude from these data that there are insufficient samples and analyses of insufficient quality to adequately determine groundwater concentrations of PCBs. Presently, the limited data prevents determination of the potential relative contribution of groundwater seep concentrations infiltrating the SWCS as compared to the contribution from other groundwater transport pathways.

Metals Data Availability and Quality

Similar issues exist regarding the ability to assess identified transport pathways based on the limited data and quality of the groundwater data collected for metals. Conclusions regarding the presence of various metals concentrations in the MWCL monitoring wells as "...less than significant..." or "... not likely site related," are not supported by the small amount of data presented in Table 1 nor documented sufficiently in previous discussions regarding groundwater characteristics and movement in this area.

Because laboratory reporting limits (RL) for the majority of metals discussed in Appendix A exceed their respective CTR values, the data may be reported as non-detect based on the RL, but the metals concentrations could conceivably exceed CTR values. The document should include a discussion supporting the comparison of groundwater data to CTR values in the case where RLs exceed CTR values and what if any impacts this result has on the validity of the data.

Reference and use of CTR criteria

The reference of CTRs in the report as "groundwater CTRs" is not appropriate. The water quality standards in the CTR are surface water standards that are being used in this report for

comparison to groundwater concentrations. For example, a review of the CTR selected for the metals presented in Table 1 shows that three of the CTRs were for human health. Based on the consumption of organisms only, seven of the CTRs were based on chronic saltwater aquatic organism health and one CTR was based on acute saltwater aquatic organism health. Further, these criteria were intended to be for dissolved metals concentrations, and the text or table should clarify whether these analyses were conducted on filtered groundwater samples.

AT 123D Modeling Exercise

The application of the screening transport model, AT 123D, to determine if PCBs present in groundwater adjacent to the Convair Lagoon are related to the TDY site or will migrate to the Convair Lagoon is not warranted. The model relied on the use of a limited PCB dataset and model inputs and assumptions that are not sufficiently documented. The conclusions are overbroad in their scope and are not supported by the model.

Attachment B of Appendix A should include a complete description of the modeling exercise conducted, including the intended goals of conducting such an exercise. Specifically, the development of the appropriate modeling scenarios, documentation and verification of all model inputs, discussion describing the various modeling assumptions evaluated, and the selection process should have been included. The modeling exercise as currently presented is not documented or described adequately to provide the support required to conclude the likely sources of PCBs in the vicinity of the Convair Lagoon.

Ideally, the modeling should have consisted of two modeling scenarios which considered the potential migration of environmental contaminants at historical concentrations from the TDY site to the Convair Lagoon and the potential migration of environmental contaminants at current concentrations from the MWCL monitoring wells to the Convair Lagoon. The two modeling scenarios vary significantly in contaminant concentrations and the numerous critical physical and chemical characteristics present in the two subsurface environments.

The AT 123D modeling conducted in this document should have included modeling runs for a worst case scenario, a best case scenario, and a realistic scenario. In lieu of that approach, the model input data should have used a range of model inputs representing expected variations in the saturated subsurface environment or truly representative median or average values for critical input parameters.

Potential Human Health Exposure to Impacted Sediment in the SWCS

If the comparison of constituents detected at the site to CTRs was intended to serve as the selection of contaminants of concern (COCs) for the risk assessment, this should be discussed in the text. In addition, COCs should be clearly defined as should the exposure point concentrations to be used in the estimates of risk.

As was previously noted, risks to the onsite demolition worker and the recreator/fisher receptors were not included in the risk assessment and should be added accordingly.

We note that the report calculates cancer and non-cancer exposure risks on an individual Aroclor basis. Given that oral reference doses (RfDo) are only available for one of the Aroclors of interest (Aroclor 1254), it would be helpful to note what assumptions were made for the other Aroclors (i.e., Was the RfDo for Aroclor 1254 used for the other Aroclors as well?).

If you have additional questions, please contact Ruth Kolb, Program Manager, at (858) 541-4328 or Edith Gutierrez at (858) 541-4361.

Sincerely,

Kris McFadden
Deputy Director

KM\rk

Enclosure: Risk Assessment, Appendix A Table

cc: Ruth Kolb, Program Manager, Storm Water Department
Edith Gutierrez, Associate Planner, Storm Water Department
Fritz Ortlieb, Deputy City Attorney

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
1. Introduction				
1.0	A-1	Introduction Second Paragraph, First Sentence	The stated focus of this document does not accurately reflect what is actually evaluated or discussed.	The document should provide a definition for the term SWCS. Does the evaluation of sediment and groundwater pathways to the SWCS include all four SWCS or just the 60" SWCS? Currently, the document does not evaluate the pathways identified in Table 1 in regard to either 30" SWCS and only partially in regard to the 54" SWCS.
1.0	A-1	Last paragraph, last sentence	"No quantitative onsite ecological risk assessment has been prepared as no onsite ecological receptors have been identified."	Without having reviewed the site-wide risk assessment, exposure pathways to ecological receptors were not complete due to the presence of barriers to the soil such as asphalt, concrete, and buildings. The planned removal of all above ground structures and concrete slabs suggests that, these once covered soils will now be exposed providing habitat for, at least initially, terrestrial invertebrates and plants. Land use zoning and future use of the site is not described in this section, so it is not clear if ecological habitats that may include mammals and avian species may become established or if the site will again be covered with buildings and concrete. If site re-development activities have not yet been planned, then the existing conditions (post-demolition) should be evaluated for potential ecological exposures and risk. Future land use plans are not discussed until Section 4.1 and this information should be summarized or referenced in the introduction.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
1.1	A-1	Scope of Site Demolition Activities	Description of site demolition suggests that Appendix A should include evaluation of additional exposure pathways present after site demolition and prior to final site surfacing.	The description of site demolition activities suggests potential temporary site conditions have been identified. The duration of these temporary site conditions is either unknown or not specified. If the current responsible party is responsible for remediation of site soils and groundwater after site demolition and prior to the application of final surfacing of the site, the document should identify and evaluate additional exposure pathways/scenarios to on-site/off-site workers and ecological receptors.
1.1	A-1	Second paragraph	"Following completion of demolition, Low Impact Design (LID) Best Management Practices (BMPs) consistent with Standard Urban Storm Water Mitigation Plan (SUSWMP) requirements to encourage infiltration of storm water on-site and reduce runoff and minimize storm drain impacts are anticipated for the Site (Port, 2009)."	The report states that infiltration of storm water on-site will be encouraged rather than as runoff since most of the SWCS will be removed as part of the demolition and in their absence runoff will need to be collected, treated, and discharged to the sanitary sewer. Since the site soils were previously unexposed, it would seem that the report objectives of evaluating groundwater and sediment potential impacts are related to this new condition, but this is not explicitly stated. This basis of the report and potential for sediment and groundwater impacts should be clarified.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
2. Conceptual Site Model				
2.0		Second Paragraph, **Figure 1 – Convair Lagoon and SWCS Conceptual Site Model**	In the most recent draft, March 2010, only groundwater flow to Convair Lagoon is shown as a potentially complete exposure pathway. In the May 2008 draft, groundwater to SWCS backfill to Convair Lagoon, groundwater flow to Convair Lagoon, groundwater to SWCS seeps to Convair Lagoon, and surface sediment to SWCS to Convair Lagoon pathways are shown as potentially complete exposure pathways. The historical SWCS sediment to SWCS to Convair Lagoon is shown as a complete exposure pathway in both Figures.	The document should provide clear definitions for the three pathway classifications listed in Figure 1. Section 2 text (page A-3) states potential transport and exposure pathways include all of the pathways listed in Figure 1, so it would appear the figure should be very similar to the Figure 1 presented in the 2008 Risk Assessment Appendix A. Essentially the same data are used in the 2010 Appendix A as the 2008 Appendix A (with some additional datasets), so it is unclear what is described in Section 2 (March 2010) that warrants the re-classification of the exposure pathways. If the re-classification of pathways is based on subsequent interpretation of the data in later sections, Figure 1 should be referenced at the point of discussion and re-numbered accordingly.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
2.0		Second Paragraph, **Figure 1 – Convair Lagoon and SWCS Conceptual Site Model**	Exposure pathway determination and receptor populations	The SWCS worker as evaluated in Section 5 of the report should be included in the CSM, as should a demolition worker with this risk scenario discussed and evaluated in the report. For ecological receptors, the only ones listed in the CSM are aquatic organisms; however, both sediment benthic invertebrates and upper trophic level wildlife should be included. The exclusion of benthic invertebrates may be just a miscommunication in that perhaps they are intended to be included in the category "aquatic organisms". The organisms included in this category should be clearly noted. Additionally, since PCBs are a particular concern because of their bioaccumulation and adverse effects potential to upper trophic level wildlife, terrestrial and aquatic dependent wildlife should be included as additional receptors. The designation of pathways as "complete", "potentially complete", and "incomplete" are not justified in the text, in which case all pathways identified as "incomplete" should be changed to "potentially complete".

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
2.0		Second Paragraph, **Figure 2 – Conceptual Site Model**	The conceptual site model (CSM) as presented appears incomplete and missing key components.	1. Figure 2 should specify if the CSM presented represents all four SWCS or just the 60" SWCS. Interpretation and conclusions regarding potential impacts to the Convair Lagoon appear to focus solely on the 60" SWCS, even though data associated with the 54" SWCS and 30" (East) SWCS present evidence that these two SWCS may have or continue to potentially impact the lagoon. 2. If the conceptual site model represents only PCBs, it should be stated in the title. If the CSM represents PCBs, metals, and other contaminants then the title is correct, but the other contaminants should be added wherever PCBs are mentioned in the figure. 3. Flow in those sections of the SWCS under the influence of tidal fluxes should be shown as bi-directional. The migration of contaminated, fine-grained sediments in the silt and clay size fraction discharged to the various SWCS from TDY conduits can be significantly impacted by tidal fluxes and storm surges into the SWCS from San Diego Bay and the Convair Lagoon. Fine-grained sediments including entrained organic material provide the largest amount of surface area for the adsorption, absorption, and complexation of PCBs, metals, and other contaminants. This fraction will be the most impacted fraction in the SWCS from tidal fluxes and storm surges. 4. Obviously Figure 3 is not to scale and that should be stated on the figure. Because tidal fluxes in the SWCS probably migrate farther up the system than currently displayed, the potential impact from the migration of

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				contaminated fine-grained sediments is potentially greater than suggested in the figure. 5. In the figure there is a pipe leading from a building to the SWCS. The pipe should be identified as to what it represents. If the pipe represents floor drains, dry sumps, below grade trenches, etc., there are potentially significant pathways for PCBs, metals, VOCs to the subsurface environment. 6. The figure should include the presence of PCBs, metals, and other environmental contaminants on the clean cap and in the general Convair Lagoon area. The presence of any of these contaminants on the clean cap adjacent to SWCS discharge locations provide a potentially continuing source of contaminants to the SWCS during incoming tides and storm surges. 7. It appears the CSM is suggesting that PCBs detected in groundwater in the vicinity of the MWCL monitoring wells are not related to the Site (green background) similar to other upgradient PCB sources described as not related to the Site. The data and the modeling discussed later in the report do not support the classification of PCBs in groundwater adjacent to the Convair Lagoon as not related to the Site. VOC and metals data in addition to PCB data for the area encompassed by the 60" and 54" SWCS suggest a possible connection with the TDY site.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3. Evaluation of Potential Groundwater/Seep Transport and Exposure Pathways **3.1 Migration of Impacted Groundwater in the Shallow/Deep Interval from the Site to San Diego Bay**				
3.1.1	A-4	Summary of Relevant Data - First Paragraph, First Sentence	Installation dates for MWCL monitoring wells and temporary borings not provided.	The document should include the installation dates for all MWCL wells and temporary borings described in the text, so that the data can be evaluated on a temporal basis (e.g. do the data represent historical or relatively recent conditions).
3.1.1	A-4		MWCL-8	Monitoring well MWCL-8 is shown in Figure 3, but is not included in the text. The text should be include this well.
3.1.1		Summary of Relevant Data - First Paragraph, **Figure 3 – Hydrogeologic Cross-Section D-D' – Convair Lagoon**	The title does not accurately reflect what is being presented in the figure and the data are not described correctly.	1. A figure should be prepared for each class of chemical compounds (metals, VOCs, SVOCs, PCBs, and TPH) analyzed and reported in Table 1 of this document. The current Figure appears to report metals data from at least two sampling events (although PCB results may be also included) and the result is confusing. The original figure in the May 2008 draft Appendix A reported only TPH and VOC data and no metals or PCB data. 2. For PCBs and most of the metals analyzed and reported in this document, the laboratory reporting limit (RL) exceeded the applicable CTR value. The use of ND<CTR for data less than the RL where in fact, the RL is greater than the CTR is incorrect and potentially presents the wrong conclusion. 3. Use of the ND<CTR value requires a clear definition. However, based on the previous comment, ND<CTR does not apply to most of the metals and PCB data reported in Figure 3.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				4. Figure 3 title should reflect that data are from at least two sampling events. 5. It is unclear why the temporary borings, T-54 and T-55, which were sampled in December 2006 for VOCs and SVOCs are included in this figure. According to Table 1, T-54 and T-55 were not sampled for metals or PCBs.
3.1.1		Summary of Relevant Data - First Paragraph, **Figure 3 – Hydrogeologic Cross-Section D-D' – Convair Lagoon**	Numeric Criteria	Figure 3 shows concentrations of metals, presumably those exceeding CTR criteria. The CTR criteria used for comparison should be included in the Legend and the concentrations presented should be clarified. Are these maximum concentrations detected or data from only the most recent sampling event?
3.1.1	A-4	Summary of Relevant Data, Second Paragraph, Fourth and Fifth Sentences	Description of sampling events that have occurred at the MWCL monitoring wells and temporary borings is confusing and contradicted by Table 1 results.	The specific number of sampling events occurring at MWCL wells 1-8 and TP-54 and TP-55, along with the analyses conducted should be clearly described in the text. The amount of data available to describe possible trends, potential sources, and whether a pathway is complete, potentially complete, or incomplete in this area is significantly smaller in quantity and more limited on a temporal basis than what the current text suggests. Table 1 shows the following for VOCs, SVOCs, and metals data: - Eight rounds of sampling for VOCs and SVOCs have occurred over the past 3.5 years in MWCL wells 1-8; - One round of sampling for VOCs and SVOCs at three

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				depths in the T-54 and T-55 borings occurred in 2006; - Three rounds of sampling for metals in MWCL wells 1-8 occurred in the past 12 months, with one additional round of sampling for metals in MWCL wells 2 and 5 in 2006. Table 1 also shows the following for PCB sampling: - No sampling for PCBs has occurred in MWCL-3, T-54 and T-55; - One round of PCB sampling in MWCL wells 1, 5, and 7 occurred in January 2010; -Two rounds of PCB sampling in MWCL wells 4 and 6 occurred in 2009; - Three rounds of PCB sampling in MWCL-2 have occurred in the past 12 months; and - Five rounds of PCB sampling in MWCL-8 have occurred in the past 2 years.
3.1.1	A-4	Summary of Relevant Data, Second Paragraph, Sixth Sentence	"These data are evaluated below, through an evaluation of trends....." is most likely not possible for two classes of chemical compounds.	With the possible exception of VOC and SVOC data reported for MWCL wells 1-8, available PCB and metals data for MWCL wells 1-8 do not support the evaluation of potential trends under this particular transport and exposure pathway. The very limited PCB and metals data suggest that applicable CTR standards are being exceeded for various metals and possibly PCBs. Broader interpretations of what the limited metals and PCB datasets suggest is not warranted until a larger dataset is available.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.1		Summary of Relevant Data, Second Paragraph, **Table 1 - Summary of Constituents Detected in Convair Lagoon Vicinity Sample Locations, 2701 North Harbor Drive, San Diego, CA**	Portions of the data reported in Table 1 are not discussed in Appendix A text nor clearly referenced to the original datasheets.	1. All data, including TPH, SVOC, and VOC data reported in Table 1, should be discussed in the text. For example, the inclusion of VOC and SVOC data with PCB and metals data for wells and temporary borings in the vicinity of the 54" SWCS suggest a potential upgradient anthropogenic source(s). Considering PCE, TCE, and vinyl chloride (VC) hotspots have been reported previously in 2007 site documents at upgradient locations adjacent to or in close proximity to the 54" SWCS suggest a potentially complete pathway for at least one of the exposure and transport pathways listed in Figure 1. The fact that cis- and trans-1,2-dichloroethenes and VC are reported in MWCL wells and temporary borings adjacent to the 54" SWCS suggest anaerobic degradation of PCE and TCE, the same chemical compounds reported upgradient, is occurring. 2. The data summarized in this table cannot be clearly referenced to the original datasheets in Attachment A. Attachment A should be reorganized so that each class of chemical compounds are reported in their own section, thus increasing the ability to confirm data reported in Table 1 and described in the text accurately reflect the original datasheets. 3. All data should be provided in Attachment A. Currently, some of the data used in the text (e.g. AT 123D model inputs referencing PTS data) cannot be located in Attachment A.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.1		Summary of Relevant Data, Second Paragraph, **Table 1 - Summary of Constituents Detected in Convair Lagoon Vicinity Sample Locations, 2701 North Harbor Drive, San Diego, CA (cont.)**	Portions of the data reported in Table 1 are not discussed in Appendix A text nor clearly referenced to the original datasheets.	4. As noted previously, for PCBs and a significant fraction of the metals, the laboratory RL is greater than the CTR values. 5. The PCB data should be reported in a separate table that includes the unadjusted PCB values for all groundwater samples reported in this document including any field QA/QC samples (e.g. travel blanks, equipment blanks, etc.) and reported PCB values for their associated laboratory blanks.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.2	A-4	Evaluation of Transport Pathway, First Paragraph, Third Sentence	"Due to the low hydraulic gradient (0.002 ft/ft) and relatively low hydraulic conductivity of the surrounding saturated sediment of $6.7x10^{-4}$ cm/sec,..."	1. The document should state whether the hydraulic gradient and hydraulic conductivity values used in this pathway evaluation represent a single, median, or average value and for which area, the Convair Lagoon or TDY site. References should be provided regarding the source of the data used and the physical characteristics of the material (texture) the hydraulic conductivity value is associated with. 2. Ideally, a range of values should be provided so that at a minimum, variation in gradient and physical characteristics of subsurface material present between the TDY site and the Convair Lagoon can be evaluated. For example, the 2008 draft document listed a different hydraulic gradient and a range of hydraulic conductivity values.
3.1.2	A-4	Evaluation of Transport Pathway, First Paragraph, Fourth Sentence	"....approximately 700 gallons of groundwater discharge..."	1. The calculation used to generate the volume of groundwater discharging to the Convair Lagoon should be provided. 2. A range of volumes for groundwater discharging to the lagoon should also be provided, as discharge will vary over time. A range of volumes were provided in the 2008 draft document.
3.1.3	A-5	Comparison of Data to CTRs	"...historically been detected....", significantly overstates the time period the majority of the data represent.	Excluding the one SVOC that exceeds its CTR standard, the majority of metals and PCB data reported in Table 1 represent three rounds of sampling over the past 12 months. The exception is PCB data for MWCL-8 which represents five rounds of sampling over the past 24 months.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3	A-5	Comparison of Data to CTRs	PCB modeling discussion should not be included subsection 3.1.3, Comparison of Data to CTRs.	The PCB modeling discussion should be removed from subsection 3.1.3 and placed in its own subsection under Section 3. The focus of Subsection 3.1.3 is comparison of groundwater data to applicable CTR values. This modeling exercise requires more documentation regarding model inputs and assumptions, since the main focus of the modeling exercise appears to be proving that the PCBs reported in the MWCL wells are not Site related via the groundwater exposure and transport pathway.
3.1.3	A-5	Comparison of Data to CTRs	Results of VOC and TPH sampling are not discussed in this subsection.	VOC and TPH data should be discussed in this subsection similar to SVOC data. Table 1 includes these two additional chemical classes, plus the 2008 draft Appendix A included a discussion of VOC data.
3.1.3	A-5	Comparison of Data to CTRs	What is the impact of reporting limits exceeding their respective CTR values have on data interpretation.	The document should include a discussion regarding the potential impact on data interpretation from laboratory RLs exceeding CTR values.
3.1.3.1	A-5	Metals	Reference and use of CTR criteria	The reference of CTRs in the report as "groundwater CTRs" is not appropriate. The water quality standards in the CTR are surface water standards that are being used in this report for comparison to groundwater concentrations. The actual source of the CTR should be noted on Table 1 and the rationale for how the CTR was selected should be clarified in the text. For example, a review of the CTR selected for the metals presented in Table 1 shows that three of the CTRs were for

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				human health and based on the consumption of organisms only, seven of the CTRs were based on chronic saltwater aquatic organism health, and one CTR was based on acute saltwater aquatic organism health. Further, these criteria were intended to be for dissolved metals concentrations and the text or table should clarify whether these analyses were conducted on filtered groundwater samples.
3.1.3.1	A-5	Metals, First Paragraph – Copper, First and Third Sentences	The discussion of copper in groundwater is inconsistent with the available data and overstates its potential impact.	Because of the significant difference in the percentage of detections reported between on-site groundwater and groundwater adjacent to the Convair Lagoon, it is recommended the authors confirm that the RLs, MDLs, etc., are similar for both datasets. If not, the conclusions reported in this document regarding differences in on-site groundwater and groundwater adjacent to the Convair Lagoon may be based on datasets of different quality.
3.1.3.1	A-5	Metals, First Paragraph – Copper, Fourth Sentence	"Seven of these samples had reported estimated results exceeding the CTR (0.0031 mg/L)."	Because the RLs for the majority of all copper analysis conducted exceed the copper CTR value, the document should include a discussion about any potential impact of this issue on the copper dataset. Currently, the copper data may be ND based on the RL, but the vast majority could exceed the CTR value.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.1	A-5	Metals, First Paragraph – Copper, Fifth Sentence	"...most of these exceedances are single sample events, not repeated in subsequent samples."	Three sampling events in the last 12 months do not provide a basis for this statement. The statement appears to suggest there is sufficient data available to identify a trend. There is not.
3.1.3.1	A-5	Metals, First Paragraph – Copper, Sixth, Seventh, and Eighth Sentences	The reporting of copper data in the MWCL monitoring wells does not consider the impact of the analytical method limitations.	Any discussion of copper data should consider the potential impact from copper RLs exceeding the copper CTR value.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.1	A-5	Metals, First Paragraph – Copper, Last Sentence	Discussion of the significance and whether the presence of copper is site-related is not currently supported by the data and should not be discussed in this subsection.	1. The document should provide a clear definition for the use of the subjective phrase "less than significant". It appears the reported copper concentrations in some MWCL wells exceed the copper CTR value, which may be interpreted as a potentially significant result. 2. The conclusion that the copper concentrations in the MWCL wells are "...not likely site related.", is not supported by the small amount of data presented in Table 1 nor documented sufficiently in previous discussions regarding groundwater characteristics and movement in this area. The focus of this subsection is the comparison of data to CTRs, not the connection of copper concentrations to potential on-site sources. A separate section should be prepared, evaluating all the data (VOCs, SVOCs, metals, PCBs, etc.,) in conjunction with the location(s) of detections and CTR exceedances, upgradient concentrations of similar chemical compounds (TCE, cis-1,2-DCE, trans-1,2-DCE, etc.), proximity to SWCS, and groundwater flow. The metals data may be site related if the data are evaluated in regard to VOC data and their reported concentrations adjacent to the 54" SWCS.
3.1.3.1	A-5	Metals, Second Paragraph– Nickel, First Sentence	In the last round of sampling, the RL reported for nickel exceeded the nickel CTR value.	The discussion of nickel data should consider the potential impact from nickel RLs exceeding the nickel CTR value.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.1	A-5	Metals, Second Paragraph– Nickel, Second Sentence	The sentence does not belong in this subsection.	The focus of this subsection is comparison of data to CTRs, not on-site background values.
3.1.3.1	A-5	Metals, Second Paragraph– Nickel, Last Sentence	Discussion of the significance and whether the presence of nickel is site-related is not currently supported by the data and should not be discussed in this subsection.	1. It appears the reported nickel concentrations in some MWCL wells exceed the nickel CTR value, which may be interpreted by some as a potentially significant result. 2. The conclusion that the nickel concentrations in the MWCL wells do "...not appear to be Site related.", is not supported by the small amount of data presented in Table 1 nor documented sufficiently in previous discussions regarding groundwater characteristics and movement in this area. The focus of this subsection is the comparison of data to CTRs, not the connection of nickel concentrations to potential on-site sources. A separate section should be prepared evaluating all the data (VOCs, SVOCs, metals, PCBs, etc.,) in conjunction with the location(s) of detections and CTR exceedances, upgradient concentrations of similar chemical compounds (TCE, cis-1, 2-DCE, trans-1, 2-DCE, etc.), SWCS, and groundwater flow. The metals data may be site related if the data are evaluated in regard to VOC data and their reported concentrations adjacent to the 54" SWCS.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.1	A-5	Metals, Third Paragraph – Silver, First and Third Sentences	The discussion of silver in groundwater is inconsistent with the available data and overstates its potential impact.	Because of the significant difference in the percentage of detections reported between on-site groundwater and groundwater adjacent to the Convair Lagoon, the authors should confirm that the RLs, MDLs, etc., are similar for both datasets. If not, the conclusions reported in this document regarding differences in on-site groundwater and groundwater adjacent to the Convair Lagoon may be based on datasets of different quality.
3.1.3.1	A-6	Metals, Third Paragraph – Silver, Last Sentence	Discussion of the significance and whether the presence of silver is site-related is not currently supported by the data and should not be discussed in this subsection.	1. It appears the reported silver concentrations in some MWCL wells exceed the silver CTR value, which may be interpreted by some as a potentially significant result. 2. The conclusion that the silver concentrations in the MWCL wells are "...not likely be Site related.", is not supported by the small amount of data presented in Table 1 nor documented sufficiently in previous discussions regarding groundwater characteristics and movement in this area. The focus of this subsection is comparison of data to CTRs, not the connection of silver concentrations to potential on-site sources. A separate section should be prepared evaluating all the data (VOCs, SVOCs, metals, PCBs, etc.,) in conjunction with the location(s) of detections and CTR exceedances, upgradient concentrations of similar chemical compounds (TCE, cis-1, 2-DCE, trans-1, 2-DCE, etc.), proximity to SWCS, and groundwater flow. The metals data may be site related if the data are evaluated in regard to VOC data and reported their concentrations adjacent to the 54" SWCS.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.1	A-6	Metals, Fourth Paragraph – Thallium, First and Third Sentences	The discussion of thallium in groundwater is inconsistent with the available data and overstates its potential impact.	Because of the significant difference in the percentage of detections reported between on-site groundwater and groundwater adjacent to the Convair Lagoon, the authors should confirm that the RLs, MDLs, etc., are similar for both datasets. If not, the conclusions reported in this document regarding differences in on-site groundwater and groundwater adjacent to the Convair Lagoon may be based on datasets of different quality.
3.1.3.1	A-6	Metals, Fourth Paragraph – Thallium, Fourth Sentence	"Only one of these samples had reported estimated results exceeding the CTR ....."	Because the RLs for the majority of all thallium analysis exceed the thallium CTR value, the document should include a discussion about the potential impact of this issue on the thallium dataset. Currently, the thallium data may be ND based on the RL, but the majority could exceed the CTR value.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.1	A-6	Metals, Fourth Paragraph – Thallium, Last Sentence	Discussion of the significance and whether the presence of thallium is site-related is not currently supported by the data and should not be discussed in this subsection.	1. The document should provide a clear definition for the use of the subjective phrase "less than significant". It appears the reported thallium concentrations in some MWCL wells exceed the thallium CTR value, which may be interpreted as a potentially significant result. 2. The conclusion that the thallium concentrations in the MWCL wells are "...not likely to be Site related.", is not supported by the small amount of data presented in Table 1 nor documented sufficiently in previous discussions regarding groundwater characteristics and movement in this area. The focus of this subsection is the comparison of data to CTRs, not the connection of thallium concentrations to potential on-site sources. A separate section should be prepared evaluating all the data (VOCs, SVOCs, metals, PCBs, etc.,) in conjunction with the location(s) of detections and CTR exceedances, upgradient concentrations of similar chemical compounds (TCE, cis-1,2-DCE, trans-1,2-DCE, etc.), proximity to SWCS, and groundwater flow. The metals data may be site related if the data are evaluated in regard to VOC data and their reported concentrations adjacent to the 54" SWCS.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.1	A-6	Metals, Sixth Paragraph – Mercury, First and Third Sentences	The discussion of mercury in groundwater is inconsistent with the available data and overstates its potential impact.	Because of the difference in percentage of detections reported between on-site groundwater and the groundwater adjacent to the Convair Lagoon, the authors should confirm that the RLs, MDLs, etc., are similar for both datasets. If not, the conclusions reported in this document regarding differences in on-site groundwater and groundwater adjacent to the Convair Lagoon may be based on datasets of different quality.
3.1.3.1	A-6	Metals, Sixth Paragraph – Mercury, Fourth Sentence	"No mercury has been detected in any Convair Lagoon vicinity wells during the most recent sampling event in January 2010."	Because the RLs for the mercury analysis conducted exceed the mercury CTR value, the document should include a discussion about the potential impact of this issue on the mercury dataset. Currently, the mercury data may be ND based on the RL, but the majority could exceed the CTR.
3.1.3.1	A-6	Metals, Sixth Paragraph – Mercury, Last Sentence	Discussion of the significance and whether the presence of mercury is site-related is not currently supported by the data and should not be discussed in this subsection.	1. The document should provide a clear definition for the use of the subjective phrase "less than significant". It appears the reported mercury concentrations in some MWCL wells have exceeded the mercury CTR value, which may be interpreted as a potentially significant result. 2. The conclusion that the mercury concentrations in the MWCL wells are "...not likely to be Site related.", is not supported by the small amount of data presented in Table 1 nor documented sufficiently in previous discussions regarding groundwater characteristics and movement in this area. The focus of this subsection is the comparison of data to CTRs, not the connection of mercury concentrations to potential on-site sources. A separate section should be prepared evaluating all the data (VOCs, SVOCs, metals, PCBs, etc.) in conjunction with the

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				location(s) of detections and CTR exceedances, upgradient concentrations of similar chemical compounds (TCE, cis-1, 2-DCE, trans-1, 2-DCE, etc.), proximity to SWCS, and groundwater flow. The metals data may be site related if the data are evaluated in regard to VOC data and reported concentrations adjacent to the 54" SWCS.
3.1.3.3	A-7	PCBs	Reported concentrations	PCBs are a site related COC and are reported in this section as routinely detected above the CTR. The analytical method used to determine total PCB concentrations should be specified particularly since method blank concentrations exceeded the CTR. Modeling Appendix B was performed using a concentration of 0.008 µg/L. This concentration supposedly represents the highest reported concentration (third quarter 2009 in MWCL-8). It is explained that this value is higher than the concentration reported in Table 1, because blank contamination was not subtracted out. There is confusion, however, related to the fact that Table 1 reports two samples collected in 2009 for this well (January and July). It is unclear whether the concentration reported in July (0.00121 B µg/L) is intended to correspond to the third quarter result. Also, the highest concentration of PCBs found in this well occurred in July 2008 (0.0333 B µg/L), an order of magnitude higher than the concentration measured in July 2009. Since the model presented in Appendix B is intended to be conservative, it should be explained why the

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				concentration measured in 2008 was not used instead of the concentration measured in 2009.
3.1.3.3	A-7	PCBs, First Paragraph, First Sentence	"PCBs have been routinely detected at trace concentrations above the CTR (0.00017 ug/L) in groundwater samples from the Convair Lagoon vicinity (Table 1)." The sentence is misleading in regard to the amount of PCB data available and its frequency of detection.	PCB data reported in Table 1 show the following: - MWCL-3 has never been sampled for PCBs; - MWCL wells 1, 5, and 7 have been sampled once for PCBs (January 2010); - MWCL wells 4 and 6 were sampled twice for PCBs in 2009; - MWCL-2 has been sampled three times for PCBs in the past 12 months; and - MWCL-8 has been sampled five times for PCBs in the past 24 months. As a result of the limited sampling frequency in various MWCL wells and the subsequent sparse PCB dataset, statements regarding the frequency of detections of PCBs are limited to only two wells. The dataset significantly limits what can be concluded about PCBs in this area in the following paragraphs.
3.1.3.3	A-7	PCBs, First Paragraph, Second Sentence	"However, all of these results are estimated and associated with laboratory method blank PCB detections which also exceed the CTR." The statement is not sufficiently documented.	1.The PCB data should be reported in a separate table that includes the unadjusted PCB values for all groundwater samples reported in this document including any field QA/QC samples (e.g. travel blanks, equipment blanks, etc.) and reported PCB values for their associated laboratory blanks. This is the most direct approach for documenting the accuracy of the PCB data used in this discussion. Currently the laboratory blank data are scattered throughout Attachment A and are difficult to review. 2. The document should discuss the impact of PCBs in the

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				laboratory blanks. Are PCBs common laboratory contaminants? Does the presence of PCBs in laboratory blanks in some way impact or otherwise compromise the quality of the PCB dataset? Currently, the RLs for PCBs exceed CTR values and as a result, at least qualitatively, PCBs may exceed the PCB CTR value in all samples analyzed.
3.1.3.3	A-7	PCBs, Second Paragraph, Second Sentence	"PCBs were only detected in one well, B120-MW2 (Table 4)." is misleading because of the potential incompatibility of the two datasets.	1. The RLs for all on-site groundwater PCB data exceed the PCB CTR value applied to the Convair Lagoon dataset. Qualitatively, all on-site PCB groundwater data may exceed the PCB CTR value. It is recommended some discussion be provided regarding the potential impact of this issue on the reported PCB results. 2. Discussion regarding the quality of the on-site data (e.g. are PCBs present in laboratory blanks) similar to the Convair Lagoon dataset should be provided. 3. The on-site PCB data reports individual Aroclors while the MWCL PCB dataset reports total PCB concentrations. Do the different reporting formats impact the ability to compare the two datasets and is some discussion required? 4. It is interesting to note that B120-MW2 is located adjacent to or in close proximity to underground lines that drain to the 30" (East) SWCS. A sediment sample collected at the discharge location for this particular SWCS and analyzed for PCB congeners (Figure 3, Geosyntec, 2008) displayed a significantly different congener signature than all other Convair Lagoon sediment samples analyzed.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				The result may suggest a potential connection to historical on-site discharges.
3.1.3.3	A-7	PCBs, Second Paragraph, Last Sentence	Discussion of the significance and whether the presence of PCBs is site-related is not currently supported by the data and should not be discussed in this subsection.	The conclusion that the PCB concentrations in the MWCL wells are "...unlikely to be Site related.", is not supported by the small amount of data presented in Table 1 nor documented sufficiently in previous discussions regarding groundwater characteristics and movement in this area. The focus of this subsection is the comparison of data to CTRs, not the connection of PCB concentrations to potential on-site sources. A separate section should be prepared evaluating all the data (VOCs, SVOCs, metals, PCBs, etc.,) in conjunction with the location(s) of detections and CTR exceedances, upgradient concentrations of similar chemical compounds (TCE, cis-1,2-DCE, trans-1,2-DCE, etc.), proximity to SWCS, and groundwater flow. The PCB data may be site related if the data are evaluated in regard to other available data.
3.1.3.3	A-7	PCBs, Third Paragraph	The introduction of a screening level transport model in this subsection is not appropriate. The paragraph is confusing.	1. The authors should move the entire AT 123D model discussion into its own subsection within Section 3. Application of a screening transport model to support conclusions that PCBs are not related to the TDY site via this particular pathway requires a much more extensive description of all model inputs, assumptions applied, and what the AT 123D model output may be suggesting regarding the migration of PCBs between the TDY site and the Convair Lagoon.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				2. The PCB value of 0.008 ug/L used as an AT 123D model input is not listed in Table 1 and, based on the existing text, it is unclear how the value was generated.
3.1.3.3	A-7	Approach	Subsection 3.1.3 is not the appropriate location for discussion of the application of a screening level transport model to reported PCB results.	The authors should move the entire AT 123D model discussion into its own subsection where a detailed discussion of all model inputs selected, modeling assumptions used, and what the modeling output may be suggesting can be fully evaluated.
3.1.3.3	A-7	Approach, First Paragraph	"...AT 123D Version 6.3..." is an incomplete reference.	A complete reference should be provided regarding the software package used for this modeling effort. There are several different software packages commercially available, all with different capabilities and documentation. Reviewers should be assured that an appropriate modeling package has been used.
3.1.3.3	A-8	Approach, Second Paragraph, Second Sentence	"...the results were consistent with historically detected PCB concentrations in groundwater samples from Convair Lagoon vicinity wells." implies the modeling output somehow reflects historical PCB concentrations in the general Convair Lagoon when in fact, the PCB dataset reflects only data collected in the last 2 years in 1 or 2 MWCL wells.	Broad conclusions about the potential for PCBs in the subsurface saturated zone to migrate from on-site sources and MWCL well locations to the Convair Lagoon are not warranted based on the minimal documentation provided as to how the selected models inputs were evaluated, whether the model inputs represent a single, median, or average value, and the overall application of a screening level transport model.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.1.3.3	A-8	**Input Parameters Table**	The input data listed in this table are poorly documented as to their appropriateness for inclusion in the model.	1. AT 123D Version 6.3 appears to be part of the SEVIEW Version 6.3 software package. To properly setup AT 123D, either the output from the SESOIL model or the Bioscreen model is used for AT 123D inputs. For the focus of this modeling exercise, SESOIL output would have been a preferred input as it describes the subsurface environment more completely than the Bioscreen model. Bioscreen is generally used to estimate natural attenuation of environmental contaminants, whereas SESOIL is applied more frequently to contaminant transport issues. The limitation of the Bioscreen – AT 123D model approach is that the subsurface environment is only partially described and the results should be considered a qualitative screening of potential contaminant transport. 2. Ideally, the modeling conducted should have considered the potential migration of environmental contaminants at historical concentrations from the TDY site to the Convair Lagoon and the potential migration of environmental contaminants at current concentrations from the MWCL monitoring wells to the Convair Lagoon. The two modeling scenarios vary significantly in contaminant concentrations and the numerous physical and chemical characteristics present in the two subsurface environments. 3. The AT 123D modeling conducted in this document should have included modeling runs for a worst case scenario, a best case scenario, and what would be considered a realistic scenario. In lieu of that approach, the model input data should have used a range of model inputs representing expected variations in the saturated

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				subsurface environment. At a minimum, if the datasets are truly representative of the subsurface environment between the TDY site and the Convair Lagoon, median or average model inputs should have been used. The selection of highest and lowest values for various physical characteristics suggests the impact these interrelated parameters have on each other may not have been completely understood. Specifically, - The PCB concentration of 0.008 ug/L is not listed in Table 1. A range of PCB concentrations should have been used in the model to insure that all potential PCB concentrations were evaluated. - The hydraulic conductivity value of 6.68E-4 cm/sec was reportedly the highest conductivity value of all PTS values. However, the data do not appear to be included in Attachments A or B. The only PTS data reported appear to be from filter sock and SWCS sediment sample analyses. Those data reflect a medium to fine sand or silty sand texture. The hydraulic conductivities for medium-fine sand and silty sand can be up to a thousand times greater than the value used. Information provided in Section 1.3.1 of the 2008 draft Risk Assessment, reported subsurface materials consisting of silty sands, silts, clays, and bay fill comprised of sandstone. Based on that information, it is clear a range of hydraulic conductivity values should have been included

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				in the modeling runs. - The average hydraulic gradient value of 0.002 used as a model input is not referenced. However, the 2008 draft RA Appendix A reports a steeper gradient. A range of gradients should have been included in the modeling runs. - Instead of the lowest effective porosity, a range of effective porosity values should have been used to capture the variation is subsurface material. - A range of dispersivities should have been used since different values can significantly impact the migration of contaminants over distance and time. - A range of bulk density values or an average or median bulk density value should have been used rather than the lowest value. Bulk density can directly impact effective porosity and other parameters used to predict migration of contaminants. - The specific PCB listed in the SEVIEW chemical database should be referenced. There are five to six classes of PCBs listed in the database and each PCB group can exhibit significantly different chemical and physical characteristics related to partition coefficients, distribution coefficients, water diffusion coefficients, etc. These differences can result in AT 123D calculating different retardation factor. - Finally, all model inputs including the physical and

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				chemical parameters listed for a chemical compound in the SEVIEW database should be verified as to their accuracy.
3.1.3.3	A-9	Approach, Third Paragraph	The conclusion that PCBs will not migrate 75 feet to the Convair Lagoon over a thousand years is not currently supported by the modeling exercise conducted.	For reasons stated earlier in regard to the inputs and assumptions used, the output from the application of this screening transport model is very limited in what it can predict regarding the potential migration of PCBs in the vicinity of the Convair Lagoon.
3.1.3.3	A-9	Dispersivity, Last Paragraph, Second and Third Sentence	"Based on the modeled results it is estimated that PCBs may have migrated up to 20 feet in groundwater in the 70 years since Site operations began. This is further evidence that the trace PCBs in Convair Lagoon, which are located over 200 feet south of the Site boundary, are unlikely to be related to Site impacts" This broad conclusion is not currently supported by the modeling exercise conducted.	The modeling conducted did not take into consideration the range of possible physical and chemical parameters present in the subsurface environment. The geology and hydrogeology described in Section 1.3.1 of Geosyntec's 2008 Risk Assessment indicate a varied subsurface environment exists. As reported in that document, layers of medium and fine sand including silty sand may exist and the hydraulic conductivities for those types of textures are up to 1,000 times greater than the value used in the model. The history of potential on-site discharges of PCBs to the subsurface environment suggest that source terms for model inputs could have been much higher than the 0.008 ug/L used in this modeling effort. All of these variations will significantly impact any model input. It is recommended that the single scenario used in this document be separated into two scenarios consisting of the TDY site - Convair Lagoon scenario and the MWCL well – Convair Lagoon scenario. The authors should

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
				evaluate all of these issues before concluding what the model may predict regarding the potential migration of on-site PCB sources to the Convair Lagoon.
3.1.3.3	A-9	Degradation, Last Sentence	"..expected to degrade to below the CTR in approximately 60 years, while migrating less than 5 feet." This statement is not currently supported by the modeling exercise conducted.	The inputs used for the AT 123D model do not support the conclusion that PCBs will migrate less than 5 feet in 60 years.
3.1.3.3	A-10	Summary	The entire discussion in this section regarding what the model output predicts is based on sparse data, use of undocumented inputs, and overly restrictive assumptions. The conclusion is not supportable based on these issues.	For the reasons described previously, the AT 123D model output cannot be used to relate the migration of historical on-site PCB discharges to the Convair Lagoon. A separate modeling scenario is required to evaluate the range of physical and chemical parameters present in the subsurface environment between the TDY site and the Convair Lagoon.
3.2	A-10	Migration of Impacted Groundwater from the Site to the SWCS Backfill Material Followed by Discharge into San Diego Bay, First Sentence	Discussion appears limited solely to the 60" SWCS.	The document should include an explanation as to why this pathway addresses only the 60" SWCS and not the other three SWCS.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.2	A-10	Migration of Impacted Groundwater from the Site to the SWCS Backfill Material Followed by Discharge into San Diego Bay, Second Sentence	The statement, "While the SWCS continues to represent a potential preferential groundwater pathway in the subsurface, the absence of backfill material which is distinguishable from the surrounding soil makes this pathway identical to that evaluated in Section 3.1." is confusing and incorrect.	1. Stating the SWCS (assuming the 60" SWCS) is a potential preferential groundwater pathway appears to be inconsistent with Section 3.1 discussion and the rest of the sentence. 2. The statement is incorrect in concluding the use of native material as backfill around the SWCS presents a pathway identical to that evaluated in Section 3.1. There is potentially a very significant difference in undisturbed native material versus native material that has been excavated, stockpiled, transported, mixed with other materials, placed back in the ground around a pipe, and compacted. Many physical characteristics associated with native material that has been disturbed will change and present a subsurface environment far different than the undisturbed native material. In addition, subsequent settlement of native material (containing silt, clay, or organic material) around the pipe can create a subsurface environment comprised of horizontal or vertical cracks/fissures, thus creating preferential pathways. Perhaps this is the reason the pathway was described as a potential preferential groundwater pathway.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
3.3	A-10	Migration of Impacted Groundwater from the Site to the SWCS, First Paragraph	The discussion appears to be limited to potential impacts from metals and PCBs to the 60" SWCS and not the other SWCS.	The document should include an explanation as to why potential metals impacts to the 54" SWCS and potential PCB impacts (B120-MW2) to the 30'(East) SWCS are not evaluated. Data reported in earlier site documents list TCE and various TCE degradation products in groundwater adjacent to and in close proximity to the 54" SWCS, while PCBs have been reported in groundwater at B120-MW2 which is adjacent to and in close proximity to the 30" (East) SWCS.
3.3	A-10	Migration of Impacted Groundwater from the Site to the SWCS, Second Paragraph	"...migration of groundwater from the Site into the SWCS and subsequently to Convair Lagoon does not appear to be a significant transport pathway. These data indicate that no further evaluation of this pathway is warranted" Discussion does not consider potential impacts of metals, PCBs, and VOCs to other existing SWCS. Discussion appears limited to the 60" SWCS.	For reasons described previously and the fact that this particular pathway was classified as a potentially complete exposure pathway in Table 1 of the 2008 draft, the document should include an explanation as to why this pathway is not evaluated for the 54" and 30" (East) SWCS.
3.3	A-10	Migration of Impacted Groundwater from the Site to the SWCS	Building and sample locations	The discussion of Building 158 and the PCB results in B120-MW2 are hampered by the fact that the location of each is not presented in a figure. Further, while it is stated that January 2010 results for this well showed no detectable concentrations of PCBs, it is relevant to know what historical sampling, if any, has been reported.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
4. Soil/Sediment to San Diego Bay Transport and Exposure Pathways				
4.1	A-11	Migration of Impacted Soil/Sediment from the Surface of the Site to the SWCS Followed by Discharge into San Diego Bay	Discussion appears limited to potential impacts to the 60" SWCS after site demolition and final surfacing of the Site. Discussion does not consider potential impacts to other SWCS or prior to final surfacing of the Site.	The document should include an evaluation of potential impacts to the remaining SWCS (60", 54", 30") caused by any remediation of surface/shallow subsurface soils after site demolition and prior to final surfacing of the Site. There will potentially be some surface migration of contaminated, fine-grained material via wind or surface water routes.
4.2.2	A-12	Evaluation of Transport Pathway, Second Paragraph	The paragraph discusses the results of inspections and the placement of filter socks on all tributaries draining to both the 54" SWCS and 60" SWCS. However, no data are presented for the 54" SWCS to support the conclusion that no further evaluation of the pathway is warranted.	1.The results of the 54" SWCS inspection discussed in Section 4.3.2 that relate to this particular pathway should be brought forward into this subsection. At a minimum, the same evaluation completed for the 60" SWCS should be completed for the 54" SWCS. 2. Some discussion regarding why an evaluation of this particular pathway in the two 30" SWCS is not required should be included.
4.3.2	A-13	First paragraph	"Of the 20 tributaries with filter socks installed on the 54-inch and 60-inch SWCS, 7 sediment samples were collected from 6 of the tributaries to the 60-inch SWCS during sock sampling events on 2 May 2007, 21 December 2007, 6 February 2008, and 11 April 2008 (Figure 4)."	Figure 4 is referenced in the first sentence of this section to explain the locations of filter sock sediment samples (n=7) collected from six of the tributaries to the 60-inch SWCS. It appears that nine sock samples are shown in the figure.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
4.3.2	A-13	Second paragraph	"Elevated concentrations of PCBs have been detected in sediment from two of the tributaries to the 60-inch SWCS, west of CB-133 and west of CB-131."	The first sentence of the second paragraph references elevated concentrations of PCBs in two of the six tributaries "west of CB-133 and west of CB-131". Multiple sample locations for CB-133 are shown on Figure 4 and, given the orientation of the figure, most samples appear to be south of CB-131, not west. Buildings 120 and 100 referenced in this section and Figure 4 are not found on Figure 4. This makes the discussion of data related to these building locations confusing.
4.3.2	A-14	Evaluation of Transport Pathway, Third Paragraph, Last Sentence	"..; however, the outfall channel appears to act as an effective sediment trap to minimize sediment migration out of the SWCS.." The outfall channel was not designed to be a sediment trap for contaminated, fine-grained sediments.	PCB results from the clean cap suggest that PCBs are potentially being discharged from the 60' SWCS outfall channel to the Convair Lagoon and redistributed during tidal fluxes and storm surges. The comment does not contribute to the conclusion that this pathway is a complete exposure pathway.
4.3.2	A-14	Evaluation of Transport Pathway, Fourth Paragraph, Last Sentence	"...outfall channel as a sediment trap." The outfall channel was not designed to be a sediment trap for contaminated, fine-grained sediments.	Same comment as described previously.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
5. Construction/Maintenance Worker Exposure to Impacted Sediment within the SWCS				
5.0	A-15	Supporting Assumptions	Calculation input parameters and target risk level	References should be cited to support the selected input parameters (including toxicity values and chemical properties) for the calculation of human health risk as well as the target risk level of 1×10^{-5}. Typically, non-cancer risk estimates are only calculated for chemicals which have a reference dose (RfDo) established by EPA, which in this case occurs only for Aroclor 1254.
5.0	A-15		It is unclear if only the 60" SWCS was evaluated for this exposure pathway or all SWCS were evaluated.	The document should specify which SWCS was evaluated for this particular exposure pathway and why other SWCS were not included in the evaluation. Each SWCS may present a different exposure pathway scenario.
6. Summary and Conclusions				
6.1	A-17	Groundwater/Seeps Pathways	The conclusions discussed in this paragraph are not supported by the sparse dataset available, analytical results reported, or modeling results	1. The document should provide on-site groundwater data applicable to this discussion. 2. For reasons described earlier, native material used as backfill can be significantly different than undisturbed native material. 3. The conclusions described that are based on the groundwater modeling are not supported due to the undocumented data used as model inputs, overly restrictive assumptions applied, and the failure to model a range of physical and chemical characteristics potentially present in the subsurface environment.

City of San Diego Comments on Risk Assessment Appendix A: Evaluation of Potential Soil/Sediment and Groundwater Impacts to Convair Lagoon				
Technical Report Section	**Page**	**Section Title/Topic**	**Reason for Proposed Changes/Comments**	**Comments/Proposed Changes**
6.2	A-17	Soil/Sediment Pathways, Second Paragraph	Discussion limited to 60" SWCS.	The document should include discussion regarding the results of evaluation for these pathways in the other SWCS or at a minimum, why they don't apply to a particular SWCS.
Attachment A				
		Analytical Laboratory Results	Data not organized for easy review.	The data should be divided into subsections where similar data (e.g. PCBs) are reported. The data should be organized sufficiently within the subsections to provide an efficient review of the data.
Attachment B				
		Groundwater Modeling Results	Attachment B should be expanded to include a full description of the modeling exercise.	In addition to reporting the modeling results in summary sheets, Attachment B should be expanded to include discussion regarding the selection process for model inputs, all model inputs with appropriate references, what the model inputs represent (single, median, average values), and all calculations. The modeling exercise has to be described sufficiently, so that another person can confirm the reported model performance and output that is subsequently used in support of the document's conclusions.