Task Number	Task Description	Progress Report
1	Site Visit and Planning Meeting.	Completed
2	Perform an assessment of the San Jacinto River flow/hydraulic conditions and river bed scour in and around the Site for severe storms, hurricanes, storm surge, etc., using surface water hydrology model(s) appropriate for the Site. In the assessment include an evaluation of potential river bed scour/erosion in light of the historical scour reports for the Banana Bend area and for the San Jacinto River south of the I-10 Bridge. PI: EH	The assessment of AnchorQEA's (AQ's) hydrodynamic and sediment transport models is that the model framework used to develop those models is not capable of accurately simulating flow and sediment erosion during high flow events such as the Oct 1994 flood. Details of this assessment will be provided in the report to be submitted on 16 Jan. The key limitations of AQ's model framework are: a) The hydrodynamic and sediment transport models are not dynamically linked, so simulated changes in bed morphology due to erosion and deposition are not used to update the flow field simulated by the hydrodynamic model. b) The model grid does not include the floodplain, so out of bank flow events are not simulated correctly. c) The location of the downstream boundary in AQ's model is problematic for two main reasons (to be described in the report). This task will be completed once the model calibration/validation is completed. Work continues on this task.
3	Perform an evaluation of the models and grid cell sizes used by the PRPs for the Site, and include a discussion of any uncertainties in the model results. The evaluation should include a review of the model assumptions regarding bed shear stress, water velocities, and scour. PI: EH	The methodology being used to perform this task is the following: a) Develop a new model grid that includes the 100-year floodplain, is finer in proximity to the Waste Pits and the Banana Bend - I-10 area, and extends to Morgan Point. b) Develop new hydrodynamic and sediment transport model input files for the new model grid. The hydrodynamic and sediment transport models to be used are dynamically linked so that simulated morphological changes are used to update the simulated hydrodynamics. c) Calibrate and validate these new models. d) Compare results from high flow event simulations performed using AQ's and ERDC's models. This task will be completed once the model calibration/validation is completed. Work continues on this task.
4	Provide an uncertainty analysis of the model assumptions (flow rates, boundary representation,	This task will be completed once the model calibration/validation is completed and the nine sensitivity simulations are completed.

	sediment transport, sedimentation rates, initial bed properties, etc.). Uncertainties should be clearly identified and assessed including sediment loads at the upstream Lake Houston Dam. PI: EH	Uncertainty model runs are also underway using AnchorQEA's hydrodynamic and sediment transport models. The results from these runs will be reported in this task in the second report.
5	Perform a technical review of the design and construction of the entire existing cap as it is currently configured. Identify any recommended enhancements to the cap. PI: PS	This task is completed.
6	Assess the ability of the existing cap to prevent migration of dioxin, including diffusion and/or colloidal transport, through the cap with and without the geomembrane/geotextile present. PI: PS	This task is completed.
7	Assess the long-term reliability (500 years) of the cap under the potential conditions within the San Jacinto River, including severe storms, hurricanes, storm surge, subsidence, etc. Include in the assessment an evaluation of the potential for cap failure that may result from waves, prop wash, toe scour and cap undermining, rock particle erosion, substrate material erosion, stream instability, and other potential failure mechanisms. Reliability will be based on the ability of the cap to prevent any release of contaminated material from the Site. Also discuss any uncertainty regarding the long-term reliability and effectiveness of the existing cap. PI: EH	An outline of the methodology to be used to assess the long-term reliability of the cap is given below. 1) Evaluate bed shear stresses generated by combining the driving forces resulting from the October 1994 flood and Hurricane Ike. 2) Estimate the erosion potential resulting from the time series of these current and wave induced bed shear stresses. 3) To evaluate potential scour of the cap due to prop wash generated by ship traffic in proximity to the cap the following methodology will be used: a) information on ship traffic (*e.g.*, average ship power, size, draft, propeller(s) diameter and type (*i.e.*, ducted or non-ducted), ship speed,) must be supplied to ERDC; b) an empirical propwash relationship will be developed and implemented using available ship information; c) calculate the bed shear stress using the method given by Maynord (2000); and d) calculate potential bed erosion using the method given by Maynord (2000). 4) The following events will also be evaluated as part of the assessment of the long-term reliability: a. Cap undermining caused by toe erosion. b. Erosion of the cap cause by movement of the armor rock across the surface of the cap during a large flood and the possible erosion of the

		substrate material below the cap. c. Changes in river flow dynamics and channel morphology during a high flow event caused by a major flood or hurricane. The model runs for this task are underway.
8	As part of the cap reliability evaluation, assess the potential impacts to the cap of any barge strikes/accidents from the nearby barge traffic. PI: PS	Carlos will be providing scenarios for Task 8 for further analysis this week (normal flow versus flooding, strike versus grounding, etc.). Stability conditions are being assessed. Potential exposures and resulting impacts from the resulting resuspension and erosion are being evaluated.
9	Identify what institutional/engineering controls (*e.g.*, deed restrictions, notices, buoys, signs, fencing, patrols, and enforcement activities) should be incorporated into the remedial alternatives for the TCRA area and surrounding waters and lands. PI: PS	Internal review comments have been addressed and this task is completed.
10	Identify and document cases, if any, of armoring breaches or confined disposal facility breaches that may have relevance to the San Jacinto site evaluation. PI: PS	This task has been completed and reviewed. It is being edited for inclusion in the next report.
11	Assess the potential amount or range of sediment resuspension and residuals under the various remedial alternatives including capping, solidification, and removal. PI: PS	Calculations have been completed and are in review.
12	Identify and evaluate techniques, approaches, Best Management Practices (BMPs), temporary barriers, operational controls, and/or engineering controls (*i.e.*, silt curtains, sheet piles, berms, earth cofferdams, etc.) to minimize the amount of sediment resuspension and sediment residuals concentrations during and after dredging/removal. Prepare a new full removal alternative that incorporates the relevant techniques identified as appropriate. PI: PS	Susan has started this task. Susan is interacting with Natalie on the alternatives, approaches and loss estimates to complete the evaluations of appropriate BMPs. BMPs have been identified. Work on development of a new full removal alternative was being initiated last week. It should be completed this week.
13	Assess the validity of statements made in the Feasibility Study that the remedial alternative with removal, solidification, and placing wastes again beneath the TCRA cap has great uncertainty as to implementation and that such management of the waste will result in significant releases. PI: PS	This task will use the results of Task 11 which should be available late this week. The solidification review has been started by Mike Channell. I have started addressing the statements on removal.

14	Provide a model evaluation of the full removal Alternative 6N identified in the Feasibility Study as well any new alternative(s) developed under Task 12 (Identify and evaluate techniques …) above. Include modeling of sediment resuspension and residuals. PI: EH/PS	The results of Tasks 11 and 12 will provide input for this task and should be available next week.
15	Evaluate floodplain management and impact considerations of construction, considering Alternatives 3N, 5aN, 6N, and any new alternative(s) developed under Task 12, in the floodplain and floodwaters pathway and how that would impact flood control, water flow issues and obstructions in navigable waters. This includes impact on changes to potential flooding and any offsets that are needed due to displacement of water caused by construction in the floodway (height or overall footprint) including effects at the current temporary TCRA cap and any potential future remedial measures. PI: EH	
16	Project the long-term (500 years) effects of the capping alternative (3N) compared to the full removal alternative (6N) on water quality. PI: PS	
17	Assess the potential impacts to fish, shellfish, and crabs from sediment resuspension as a result of dredging in the near term and for the long term. PI: PS	
18	Assess the potential for release of material from the waste pits caused by a storm occurring during a removal/dredging operation; identify and evaluate measures for mitigating/reducing any such releases. PI: EH	
19	Estimate the rate of natural attenuation in sediment concentrations / residuals and recommend a monitoring program to evaluate the progress. Discuss the uncertainty regarding the rate of natural attenuation. PI: EH	
20	Assess the appropriateness of the preliminary sediment remediation action level of 220 *ng/kg* in consideration of the appropriate exposure scenario (recreational vs. subsistence fishing), and in	Paul is working with Joe Kreitinger and Karl Gustavson to start work on this task. Joe is taking the lead on this task. Relevant information on the Tittabawassee has been gathered. More info has been gathered on the dioxin evaluation framework. Joe

	consideration of an appropriate Relative Bio-Availability (RBA) factor; and recommend an alternative sediment action level as appropriate. PI: PS	Kreitinger has started review of the risk assessment and establishment of the remediation action level.
21	Communicate at least weekly with the EPA Remedial Project Manager (RPM) regarding progress and issues identified during the report review. Maintain all technical and financial records associated with this Work Authorization. Prepare and submit monthly progress reports and invoices to document monthly and cumulative cost, performance status, and technical progress. PI: EH	