

## APPENDIX C

### EVALUATION OF DATA QUALITY OBJECTIVES ATTAINMENT

Activity	Objectives	Action	Objective Attained?	Recommendations
<b>Objective 1: Meet TNRCC Requirements for Site Closure</b>				
<b>Attainment of Risk Reduction Standard Number 1: Closure/Remediation to Background</b>				
	Remove all hazardous and nonhazardous waste and waste residues and contaminated design and operating system components such as liners, leachate collection systems, and dikes from the unit or area of the unauthorized discharge. For remediation of media that have become contaminated by releases from a waste management unit or by other unauthorized discharge of hazardous or nonhazardous waste, the contaminated media must be removed or decontaminated to cleanup levels specified in this section (30 TAC 335.554(b) and (c)).	A suspect disposal site was identified during a sweep for UXOs. UXO removal activities were conducted and sifted soils were stockpiled at the site. Three soil borings were conducted to assess conditions at the site.	Yes. All hazardous and nonhazardous materials were removed via excavation at the site. Closure confirmation samples confirmed the removal of waste and waste residue.	NA

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	<p>Determine compliance with RRS1 closure requirements by comparing background as represented by results of analyses of samples taken from media that are unaffected by waste management or industrial activities. If the practical quantitation limit (PQL) is greater than background, then the PQL rather than background shall be used as the cleanup level provided that the person satisfactorily demonstrates to the executive director that lower levels of quantitation of a contaminant are not possible (30 TAC 335.554(d)).</p>	<p>Contaminant concentrations were compared to draft revised background levels (Parsons ES, May 2001) or PQLs.</p>	<p>After initial soil samples showed elevated concentrations of copper, lead and mercury, and SVOCs, excavation was performed to remove the contaminated soil, and any waste or waste residue. Closure sample results coupled with statistical analyses indicate that the contamination was removed and the site meets RRS1 closure standards.</p>	<p>Site closure under RRS1.</p>
	<p>Attainment of cleanup levels shall be demonstrated by collection and analysis of samples from the media of concern (30 TAC 335.554(e)).</p>	<p>Closure samples taken at the site after excavation activities indicate that all waste and waste residue have been removed.</p>	<p>Sample results indicate concentrations of analytes below CSSA background limits.</p>	<p>Site closure under RRS1.</p>

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<b>Objective 2: Meet Requirements of 3008(h) Order for RFI</b>				
<b>RFI Workplan Requirements</b>				
Field Sampling <i>(Detailed listing of methods and procedures are provided in project plans which are incorporated by reference).</i>	Conduct field sampling in accordance with procedures defined in the project work plan, SAP, QAPP, and HSP.	All sampling was conducted in accordance with the procedures described in the project plans.	Yes.	NA
<b>Facility Investigation</b>				
Characterization of Environmental Setting - Hydrogeology (B.3.A.1)	Evaluate hydrogeologic conditions at the site.	Shallow groundwater was not encountered during drilling at the site.  Groundwater of the Trinity Aquifer is being addressed through the Groundwater Investigation.	NA	NA
Characterization of Environmental Setting- Soils (B.3.A.2)	Characterize soils in accordance with USCS soil classification system (B.3.A.2(a)).	Soil types at the site are based on the SCS Bexar County Soil Survey (USDA, 1991) and are described in Section 1.3.1.	Yes.	NA
	Determine soil pH (B.3.A.2(e)).	The pH of each of the soil types evaluated as part of the background metals concentration study was determined through laboratory analysis during soil pile disposition activities. According to those analyses, the pH of Brackett soils is 7.87.	Yes.	NA
	Determine moisture content (B.3.A.2(g)).	The moisture content of each sample was determined during laboratory analysis of samples. Results are included in the analytical packages.	Yes.	NA

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Characterization of Environmental Setting – Surface Water and Sediment (B.3.A.3)	Characterize marshes, creeks, wetland areas, or ditches at the site.	No marshes, creeks, wetland areas, or ditches are present at the site. Direction of runoff flow has been evaluated in Section 1.3.1.	Yes.	NA
Source Characterization (B.3.B)	Identify the source area (B.3.B.1).	A description of the source area is provided in Section 1.3.	Yes, to the extent possible. The extent of impacted soils in the source area has been removed, based on soil sample results.	NA
	Identify the location of the unit/disposal area (B.3.B.2(a)).	The boundary of the DD area was surveyed by licensed surveyors in 1996.	Yes.	NA
	Identify the type of unit/disposal area (B.3.B.2(b)).	A placard reading “Demo Dud Area” and abundant metal debris on the ground surface provided the initial evidence that a waste disposal site was potentially located at the DD area. Since there was a possibility for UXO to exist at the site, UXO experts conducted a sweep of the ground surface to identify UXO. Based on the findings of their surface sweep, it was decided to excavate test pits to determine if waste was buried at the site. A trench was found during the test pit excavation.	Yes. Excavation was conducted at the site to determine the extent of the trench, and soils were sifted to remove UXO.	NA
	Identify design features (B.3.A.2(c)).	Information regarding design features was obtained during the Environmental Assessment (ES, 1993) and through visual observation during the field investigation. All available information regarding the design of the disposal site is provided in Section 1.2.	Yes.	NA

Activity	Objectives	Action	Objective Attained?	Recommendations
	Identification of past and present operating practices, period of operation, age of unit/disposal area, and method used to close the unit/disposal area (B.3.B.2(d), (e), (f), and (h)).	All known information regarding these items is provided in Section 1.2. This information is from the Environmental Assessment, records review, interviews, aerial photo review, and visual observations.	To the extent possible with data available.	NA
	Determine general physical conditions of the site (B.3.B.2(g))	The general physical condition of the site was determined during the field investigation. This information is presented in Section 1.3.	Yes.	NA
	Identify waste characteristics, including type of waste placed in the unit, physical and chemical characteristics of the wastes, and migration and dispersal characteristics of the waste (B.3.B.3).	Records regarding historic waste disposal practices at CSSA are very limited. All known information, derived from the Environmental Assessment, records review, interviews, and visual observations at the site is provided in Sections 1.1 and 1.2.	Yes	NA
Contamination Characterization – Groundwater (B.3.C.1)	Characterize the vertical and horizontal extent of groundwater contamination.	Shallow groundwater was not encountered during drilling at the site. Groundwater of the Trinity Aquifer is being addressed through the Groundwater Investigation.	NA	NA
Contamination Characterization – Soil (B.3.C.2)	Determine vertical and horizontal extent of contamination (B.3.C.2(a)).	Complete three soil borings in the trench area to determine the extent of contamination. Descriptions of the soil boring activities and other field activities are provided in Section 1.4.	Yes. Soil borings, along with soil samples, indicated the extent of the contamination. The area was excavated to remove the contamination.	NA

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	Describe contaminant and soil properties with the contaminant source area, including contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation, and other factors that might affect contaminant migration and transformation (B.3.C.2(b)).	These factors were addressed during the soil pile disposition activities.	Yes.	NA
	Describe soil properties (B.3.C.2(c)).	See “Characterization of Environmental Setting – Soils” above.	Yes.	NA
	Identify the direction of contaminant movement (B.3.C.2(d)).	Contaminants were determined to be at shallow depths in soil, and no shallow groundwater was encountered at the site. Since groundwater was not reported within the shallow strata at the site, it was not possible to identify a direction of contaminant movement.	NA	NA
	Extrapolate future contaminant movement (B.3.C(e)).	NA	NA	NA

Activity	Objectives	Action	Objective Attained?	Recommendations
	Implement a soil boring investigation to determine the extent of soil contamination. Soil gas monitoring will be performed during drilling of all borings. Laboratory analysis of borings for contaminants of potential concern will be performed on soils at depths where either visual contamination is evident, or soil gas concentrations indicate contamination. All boreholes shall be properly abandoned.	Three soil borings were advanced at the site. The soil borings were properly abandoned following completion of the drilling activities. Soil boring activities are outlined in Section 1.4.2. PID readings were recorded during soil boring drilling to monitor organic vapor concentrations.	Yes.	NA
	Prepare a map of all areas included in the investigation (B.3.C.2(i)).	Figures of the site and location of soil borings are provided or referenced in the report.	Yes.	NA
	All reporting limits should be below regulatory criteria.	RLs were approved by TNRCC on October 5, 1999. are considered RRS1 standards for all analytes except metals. Draft values from the Draft Second Revision to the Evaluation of Background Metals Concentrations in Soil Types (Parsons ES, May 2001) were used as RRS1 comparison criteria for metals.	Yes.	NA
	Perform all analyses in accordance with the AFCEE QAPP.	All analyses were performed in accordance with the AFCEE QAPP and approved variances.	Yes.	NA

Activity	Objectives	Action	Objective Attained?	Recommendations
		All data flagged with “U,” “F,” “M,” and “J” are considered usable for site characterization purposes.	<p>Yes.</p> <p>Inorganics - The matrix interference is significant. After verifying all the compliant laboratory control data, and the spiking solutions, it was determined that the matrix effect was due to the occurrence of high-level concentrations of metals in some samples. However, the level of bias towards accuracy of results cannot be mathematically determined.</p> <p>Organics – The matrix interference is significant. Two months of laboratory control charts were checked and it appeared that the percent recoveries were compliant, however, they were on the low end of the acceptable control limits.</p>	Per AFCEE QAPP requirements, “M” flagged data are also considered usable.
Potential Receptors (B.3.D).	Identify potential receptors	Records regarding potential receptors at CSSA are very limited. All known information was derived from the Environmental Assessment, records review, interviews, and visual observations at the site, is provided in Section 1.3.5.	Yes.	NA