

**APPENDIX C
 EVALUATION OF DATA QUALITY OBJECTIVES ATTAINMENT**

ACTIVITY	OBJECTIVES	ACTION	OBJECTIVE ATTAINED?	RECOMMENDATIONS
OBJECTIVE 1: Meet TNRCC Requirements for Site Closure				
Attainment of Risk Reduction Standard Number 1: Closure/Remediation to Background				
Attainment of Risk Reduction Standard Number 1: Closure/Remediation to Background	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)).	Surface soil samples were collected to determine if past waste activities had contaminated the site soils. Two geophysical surveys were conducted to determine if there is evidence of buried waste at the site.	The geophysical surveys indicated no electromagnetic anomalies at the site, therefore, buried waste is not suspected. Surface soil samples collected at the site indicated the presence of methylene chloride above CSSA background (the RL). The methylene chloride concentrations slightly exceeded the reporting limit in one sample, but since this is a common laboratory contaminant and the exceedance was very slight, Parsons feels that RRS1 closure is warranted.	Closure under RRS1.

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Attainment of Risk Reduction Standard Number 1: Closure/Remediation to Background (continued)	Determine compliance with RRS1 closure requirements by comparing to background as represented by results of analyses of samples taken from media that are unaffected by waste management or industrial activities. If the 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)).	Contaminant concentrations were compared to revised background levels (Parsons, February 2002) or RLs.	Methylene chloride was detected slightly above the RL.	Although low levels of methylene chloride were detected above the RL, further work at SWMU B-22 is not recommended. See discussion in Section 3.3 for explanation.
Attainment of Risk Reduction Standard Number 1: Closure/Remediation to Background (continued)	Attainment of cleanup levels shall be demonstrated by collection and analysis of samples from the media of concern (30 TAC 335.554(e)).	Surface soil samples were collected at the site and analyzed for contaminants of potential concern, including metals, VOCs, and explosives.	See above.	See above.
OBJECTIVE 2: Meet Requirements of 3008(h) Order for RFI				
RFI Workplan Requirements				
Field Sampling (Detailed listing of methods and procedures are provided in project plans which are incorporated by reference).	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

ACTIVITY	OBJECTIVES	ACTION	OBJECTIVE ATTAINED?	RECOMMENDATIONS
Facility Investigations				
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 1.2.1.	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. According to those analyses, the pH of Trinity & Frio soils and Krum Complex soils are 7.90 and 7.87, respectively.	Yes	NA
	Determine moisture content (B.3.A.2(g)).	The moisture content of each sample was analyzed. Moisture content values are provided in laboratory data packages. The moisture content values for the samples range from 23.4% to 27.8%.	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 1.2.3.	NA	NA
Source Characterization (B.3.B)	Identify the source area (B.3.B.1).	A description of the source area is provided in Section 1.1.2.2. Sampling at the site was conducted to cover a maximum area since no surface debris/waste was noted during field operations.	Yes	NA
	Identify the location of the unit/disposal area (B.3.B.2(a)).	In 1999, points along the boundary of SWMU B-22 were surveyed with a Rockwell Plugger GPS unit (estimated accuracy of ±25 feet). The boundary of the site was reviewed during preparation of this report and adjusted, if necessary, based on observations made during the field investigation.	Yes. Although the accuracy of the boundary survey of the site is estimated to have an approximate error of 25 feet, this accuracy is sufficient for closure under RRS1.	NA
	Identify the type of unit/disposal area (B.3.B.2(b)).	The site was located on a historical aerial photograph. The site was reportedly used as a burn area for fired small arms ammunition brass.	Yes	NA

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Source Characterization (B.3.B) (continued)	Identify design features (B.3.A.2(c)).	Information regarding design features was obtained during the Environmental Assessment (ES, 1992) and through visual observation during the field investigation. All available information regarding the design of the disposal site is provided in Section 1.1.2.1.	Yes	NA
	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 1.1.2. 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 is presented in Section 1.2	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 Section 1.2.	Yes	NA

ACTIVITY	OBJECTIVES	ACTION	OBJECTIVE ATTAINED?	RECOMMENDATIONS
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)).	Five surface soil samples were collected at the site to delineate the horizontal extent of contamination. Because no geophysical anomaly was identified at the site, subsurface sampling was not conducted.	Yes. All surface soil samples are considered to meet background levels, as described in Section 3.3	
	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)).	NA	NA	NA
	Identify the direction of contaminant movement (B.3.C.2(d)).	NA	NA	NA

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Contamination Characterization – Soil (B.3.C.2) (continued)	Extrapolate future contaminant movement (B.3.C.2(e)).	NA	NA	NA
	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.	Not included in this report for SWMU B-22. A soil boring investigation is not considered necessary for this site since there is no evidence of buried waste.	NA	NA
	Prepare a map of all areas included in the investigation (B.3.C.2(i)).	Figures B22-1 through B22-4 show all areas included in the investigation	Yes	NA
	All reporting limits should be below regulatory criteria.	RLs were approved by TNRCC on October 5, 1999. RLs are considered RRS1 standards for all analytes except metals. Background metals levels were approved by TNRCC on April 23, 2002.	Yes	NA

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Contamination Characterization – Soil (B.3.C.2) (continued)	Perform all analyses in accordance with the AFCEE QAPP.	All analyses were performed in accordance with the AFCEE QAPP and approved variances.	Yes	NA
		All data flagged with “U”, “F”, “M” or “J” are considered usable for closure and site characterization purposes.	Yes. “M” flagged data are also considered usable. The matrix interference is minimal and does not significantly affect the sample results.	NA
Potential Receptors (B.3.D).	Collect the information necessary to describe the human populations and environmental systems that are susceptible to contaminant exposure from the facility.	Information regarding receptors is provided in the Risk Assessment Technical Approach Document (Volume 1-6). In addition, the Well Research Report identifies private groundwater users within 0.25-mile and public water suppliers within 0.5 mile of CSSA.	NA	NA