APPENDIX D
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)).	A geophysical survey and surface and subsurface sampling were conducted to determine if there is evidence of buried waste at the site. The geophysical survey indicated an anomaly, potentially caused by buried waste. Surface and subsurface sampling was performed in the areas thought to potentially contain waste.	No. Since there is evidence that waste may be buried at the site, this objective has not been attained.	Excavate test pit in area where an anomaly is indicated. If no waste is encountered, pursue RRS1 closure.

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Activity	Objectives	Action	Objective Attained?	Recommendations
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 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)).	Contaminant concentrations were compared to revised background levels (Parsons, February 2002) or RLs.	Yes. Four subsurface samples exceeded background levels for metals. However, concentrations were below Texas-specific median background concentrations. Bis (2-ethylhexyl)phthalate concentrations are attributed to field/lab contamination of samples.	Concentrations were below Texas-specific median background concentrations. However, because there is a possibility of buried waste, RRS1 closure cannot be recommended at this time. The anomalies should be excavated as described above.
	Attainment of cleanup levels shall be demonstrated by collection and analysis of samples from the media of concern (30 TAC 335.554(e)).	Surface and subsurface soil samples were collected at the site and analyzed for contaminants of potential concern, including metals, VOCs, and SVOCs.	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

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Activity	Objectives	Action	Objective Attained?	Recommendations
Facility Investigation				
Characterization of Environmental Setting - Hydrogeology (B.3.A.1)	Evaluate hydrogeologic conditions at the site.	Not included in this phase of the RFI at the SWMU B-26 area. 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 Krum Complex soils is 7.87.	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 analytical packages.	Yes.	NA
	Characterize marshes, creeks, wetland areas, or ditches at the site.	No marshes, wetland areas, or ditches are present at the site. An intermittent creek is located 100 feet west of SWMU B-26. Direction of runoff flow has been evaluated in Section 1.2.1.	Yes	NA

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Activity	Objectives	Action	Objective Attained?	Recommendations
Source Characterization (B.3.B)	Identify the source area (B.3.B.1).	A description of the potential source area is provided in Section 1.1.2.2.	No. Since a geophysical survey confirmed the presence of an unidentified subsurface anomaly at SWMU B-26, subsurface excavation is required to fully characterize the potential source area.	A test pit should be excavated to determine what is causing the geophysical anomaly.
	Identify the location of the unit/disposal area (B.3.B.2(a)).	The boundaries were initially marked from aerial photographs, and confirmed by field investigations. In 1999, points along the boundary of SWMU B-26 were surveyed with a Rockwell Plugger GPS unit (estimated accuracy of ±25 feet). The measurement points were identified by the CSSA Environmental Coordinator. The boundary of the site was reviewed and adjusted 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)).	A possible waste disposal trench was identified in the SWMU B-26 location in a 1966 aerial photograph. Information regarding the type of unit was obtained during the Environmental Assessment (ES 1992). A geophysical survey confirmed the presence of a subsurface anomaly at the site.	No. The geophysical survey and sampling provided additional evidence of potential buried waste; however, this has not been confirmed.	Excavation in area where an anomaly is indicated.
	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.	No. It is still unknown if the site was used to dispose of waste.	See above.

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Activity	Objectives	Action	Objective Attained?	Recommendations
Source Characterization (B.3.B) (continued)	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 1.1.2.1. This information is from the Environmental Assessment, 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 1.1.2.1.	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 1.3.	Yes, to the extent possible with the data available.	NA
Contamination Characterization – Soil (B.3.C.2)	Determine vertical and horizontal extent of contamination (B.3.C.2(a)).	Surface and subsurface samples were collected to determine horizontal and vertical extent of contamination, if any.	Yes. Exceedances were either associated with field/lab sampling contamination, or were so close to CSSA background or Texas-specific median background that no further action regarding these concentrations is warranted.	NA
	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)).	Concentrations reported from surface and subsurface soil sampling do not result in a recommendation for further investigation. Additional investigation at SWMU B-26 is recommended due to the geophysical anomalies reported.	Yes	NA

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Activity	Objectives	Action	Objective Attained?	Recommendations
Contamination Characterization – Soil (B.3.C.2) (continued)	Describe soil properties (B.3.C.2(c)).	See "Characterization of Environmental Setting – Soils" above.	NA	NA
	Identify the direction of contaminant movement (B.3.C.2(d)).	No actions taken.	NA	NA
	Extrapolate future contaminant movement (B.3.C.2(e)).	No actions taken.	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.	Soil borings were advanced in areas thought to potentially contain waste. A PID was used to monitor organic vapors. Samples collected from the boring were sent to a laboratory for appropriate analyses, and all boreholes were properly abandoned.	Yes.	NA
	Prepare a map of all areas included in the investigation (B.3.C.2(i)).	Figures included in this report 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 for CSSA were approved by TNRCC on April 23, 2002.	Yes	NA

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Activity	Objectives	Action	Objective Attained?	Recommendations
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," and "J" are considered usable for 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
		All "R" flagged data are considered unusable. Non-compliance of the relative percent difference (RPD) of the field duplicate collected on the same day lead to "R" flagged data for one metal.	Yes	As the rejected analyte had not been detected in the field duplicate sample and the original sample had a compliant detected value, the rejected field duplicate has no effect on data quality. The data are considered usable for characterization and closure purposes.
Contaminant Characterization – Sediment and Surface Water (B.3.C.3)	Conduct a surface water and sediment investigation to characterize contamination resulting from releases at the Facility.	SWMU B-26 is located 100 feet east of an intermittent creek. Surface water was not sampled as part of the SWMU B-26 investigation.	Yes	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.	Yes.	NA