

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 1	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, surface and subsurface sampling was 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. Waste was encountered in one of the borings. Samples exceeded RRS1 closure concentrations.	No. Since there is evidence that waste is buried at the site, this objective has not been attained.	Excavate in area of each anomaly as determined by the geophysical survey. Remove and properly dispose of waste and waste residue (contaminated soils). Collect confirmation samples, and backfill with clean soil.

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Attainment of Risk Reduction Standard 1	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 second revised background levels (Parsons, February 2002) or PQLs.	No. Surface soil samples from exceeded background levels.	See 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.	No. RRS1 cleanup levels have not been attained. Soil samples from two of the borings exceeded background levels.	See above.
Objective 2: Meet Requirements of 3008(h) Order for RFI				
RFI Workplan Requirements				
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

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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-27 area. 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 and reported in the laboratory 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 directly north of SWMU B-27. Direction of runoff flow has been evaluated in Section 1.2.1.	Yes	NA
Characterization of Environmental Setting – Surface Water and Sediment (B.3.A.3)	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 subsurface anomalies at SWMU B-27 and sampling exceeded closure criteria, subsurface excavation is required to fully characterize the potential source area.	Excavate in area of each anomaly as determined by the geophysical survey. Remove and properly dispose of waste and waste residue (contaminated soils).

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Source Characterization (B.3.B)	Identify the location of the unit/disposal area (B.3.B.2(a)).	<p>The boundaries were initially marked from aerial photographs, and confirmed by field investigations.</p> <p>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 during preparation of this report and adjusted based on observations made during the field investigation.</p>	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)).	Possible multiple waste disposal trenches were identified in the SWMU B-27 location. 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, and sampling exceeded RRS1 closure criteria.	Yes. Geophysical results indicate trench type landfill. Waste was encountered in one of the borings at a depth of 2 to 5 feet bgs.	NA
	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. All investigation evidence indicates that the site was potentially used for waste disposal.	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 1.1.2.1. This information is from the Environmental Assessment, and visual observations.	To the extent possible with data available.	NA

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Source Characterization (B.3.B) (continued)	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.	No. The horizontal and vertical extent of contamination at SWMU B-27 has not been determined.	Excavate in area of each anomaly as determined by the geophysical survey. Remove and properly dispose of waste and waste residue (contaminated soils).
	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. The number and level of contaminant exceedances do not warrant an evaluation of contaminant movement trends.	NA	NA
	Extrapolate future contaminant movement (B.3.C.2(e)).	No actions taken. The number and level of contaminant exceedances do not warrant an evaluation of future contaminant movement trends.	NA	NA

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Contamination Characterization – Soil (B.3.C.2) (continued)	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. PID was used to monitor soil gas vapors during drilling. Samples collected from each boring were submitted for laboratory analysis. Each borehole was 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. The values from the Second Revision to the Evaluation of Background Metals Concentration in Soil Types (Parsons, February 2002) were used as RRS1 comparison criteria for metals.	No	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
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	

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		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, cadmium.	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