

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 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 was conducted to determine if there is evidence of buried waste at the site.	No. Three subsurface anomalies were discovered, all of which remain in the subsurface of the site area. In addition, there is waste visible on the ground surface, including sand and shot, metal pipes, wood boxes and slats, and construction rubble.	Remove all waste visible on the ground surface. Use a magnetometer to determine if any buried waste is located within the embankment. If evidence of waste remains, excavations should be made to determine if there is waste and dispose of any properly.
	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 PQLs.	Yes. Surface and subsurface samples were collected at SWMU B-29. Metals and SVOCs were detected above RRS1 in both surface and subsurface sampling locations.	When waste is removed, waste residue in surrounding soils should also be removed. Verification samples should be collected to confirm that waste has been removed. Since concentrations of metals in samples collected at depths greater than one foot do not exceed Texas-specific median background concentrations, further work to address subsurface soils is not considered warranted.

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Activity	Objectives	Action	Objective Attained?	Recommendations
Attainment of Risk Reduction Standard 1 (cont.)	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 samples were collected at SWMU B-29. Based on identification of the site as disposal area for miscellaneous solid wastes, munitions, and construction debris, COCs include SVOCs, VOCs, metals, and explosives.	No. See above.	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
Facility Investigation				
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

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Activity	Objectives	Action	Objective Attained?	Recommendations
Characterization of Environmental Setting- Soils (B.3.A.2) (cont.)	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 Crawford and Bexar Stony soils is 7.89.	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
Characterization of Environmental Setting – Surface Water and Sediment (B.3.A.3)	Characterize marshes, creeks, wetland areas, or ditches at the site.	There are no surface water features at the site. The closest surface water features are a stream located about 500 feet to the east of the site and the “W” Tank located 500 feet northwest of the site.	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 1.1.2.2.	Partially. Samples were biased toward areas of the SWMU that would likely contribute to soil contamination (e.g. metal debris, geophysical anomalies, and sand/shot piles). The sampling scheme is considered complete. However, it is unknown if there is buried waste at the site.	After surficial waste is removed, use a hand-held magnetometer to determine if buried metal is located at the site. If so, excavate and properly dispose and/or recycle.

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Activity	Objectives	Action	Objective Attained?	Recommendations
Source Characterization (B.3.B) (cont.)	Identify the location of the unit/disposal area (B.3.B.2(a)).	In 1999, points along the boundary of each site 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. If CSSA opts to close the site under RRS2, a metes and bounds survey by a licensed surveyor will be necessary.	NA
	Identify the type of unit/disposal area (B.3.B.2(b)).	The type of unit/disposal area was identified in the Environmental Assessment.	Yes. We know the type of disposal at most sites based on records review, interviews with base personnel, and aerial photo review.	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.	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, 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 1.2.	Yes.	NA

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Activity	Objectives	Action	Objective Attained?	Recommendations
Source Characterization (B.3.B) (cont.)	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 (if appropriate for your site), records review, interviews, and visual observations at the site is provided in Section 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)).	Surface and subsurface samples were collected at SWMU B-29.	Yes. Metals and SVOCs were detected above RRS1.	Following removal of surface contamination, verification sampling is recommended to confirm that all waste residue has been removed.
	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)).	Due to the limited RRS1 exceedances, evaluation of the direction of contaminant movement was not conducted.	NA	NA
	Extrapolate future contaminant movement (B.3.C.2(e)).	Due to the limited RRS1 exceedances, extrapolation of future contaminant movement was not conducted.	NA	NA

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Activity	Objectives	Action	Objective Attained?	Recommendations
Contamination Characterization – Soil (B.3.C.2) (cont.)	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.	Six soil borings were drilled and sampled. A PID was used during drilling to monitor for organic vapors. Samples were collected from each boring and sent to offsite laboratories for analysis.	Yes.	NA
	Prepare a map of all areas included in the investigation (B.3.C.2(i)).	Figures B29 1-4 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.	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
		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
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.	No surface water is present at the site.	Yes	NA

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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