

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)).	A geophysical survey was conducted to identify the location of the pipe that drained from the maintenance pit. Surface and subsurface soil samples were collected to determine if waste residue remains.	No. Surface and subsurface soil samples collected at the site indicated the presence of several analytes above RRS1. The geophysical survey indicated that there are no electromagnetic anomalies at the site, therefore, buried waste is not suspected.	To close under RRS1, additional sampling and remediation/disposal of contaminated soil is necessary.
	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 (ParsonsFebruary 2002) or PQLs.	No. Surface and subsurface soil samples collected at the site indicated the presence of several analytes above RRS1 (background values).	Extent of contamination should be determined through additional investigation, both additional sampling and excavation.

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Attainment of Risk Reduction Standard Number 1: Closure/ Remediation to Background (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 soil samples were collected at SWMU B-34. Contaminants of potential concern include VOCs, SVOCs, and metals.	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. Crawford and Bexar is the single soil type present at SWMU B-34.	Yes.	NA
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 soils is 7.89.	Yes.	NA

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	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.	Yes.	NA
Characterization of Environmental Setting – Surface Water and Sediment (B.3.A.3)	Characterize marshes, creeks, wetland areas, or ditches at the site.	A ditch is present just south of the site area near the piping outfall area of SWMU B-34. One surface soil sample was collected from the ditch.	No.	Additional sampling is recommended along the ditch to determine if discharges from the pipe have impacted surface and subsurface soils.
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.	Yes. The source of possible contamination is considered to be the maintenance pit.	NA
	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.	NA
Source Characterization (B.3.B) (cont.)	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.	Yes. To the extent possible with data available.	NA

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	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 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 1.1.2.1.	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 samples and borings were advanced in areas thought to contain contamination.	No. The horizontal and vertical extent of contamination has not been established.	Excavation and further sampling is recommended to determine the extent of contamination that must be removed/remediated for RRS1 closure.
Contamination Characterization – Soil (B.3.C.2) (cont.)	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)).	See “Characterization of Environmental Setting – Soils” above and Section 1.2.	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)).	NA	NA	NA
	Extrapolate future contaminant movement (B.3.C.2(e)).	No action taken.	NA	NA

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	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 at SWMU B-34 and analyzed for VOCs, SVOCs and metals.	Yes.	NA
	Prepare a map of all areas included in the investigation (B.3.C.2(i)).	Figures B34-1 through B34-4 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. "M" flagged data are also considered usable. The matrix interference is minimal and does not significantly affect the sample results.	NA
Contamination Characterization – Soil (B.3.C.2) (cont.)	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.	NA
		No data was flagged with "R".	Yes.	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.	A ditch is present just south of the site area near the piping outfall area of SWMU B-34. The ditch ultimately drains into Leon Creek.	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

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