

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				
	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)).	Geophysical survey was conducted to determine if there is evidence of buried waste at the site. Survey indicated anomalies, potentially caused by buried waste. Collected surface soil samples.	No. Since there is evidence that waste may be buried at the site, this objective has not been attained. In addition, one surface soil samples contained lead and zinc at above-background concentrations.	Excavate in area which indicated anomalies and elevated metals concentrations. If buried waste and contaminated soil are encountered, remove/remediate them. Collect additional samples to verify that the extent of soil contamination has been determined and removed.

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	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, which are equivalent to PQLs.	No. Sample AOC56-SS01 contained above-background levels of lead and zinc.	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 soil samples were collected at the site.	No. One sample contained above-background levels of lead and zinc. In addition, results of the geophysical survey indicate that there are anomalies at the site, subsurface investigation and sampling is necessary.	Contaminated soil and anomalies identified during the geophysical survey should be excavated to determine if there is buried waste at the site. If there is, subsurface sampling should be conducted to verify that cleanup levels have been attained.
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. Surface soil sample locations were modified slightly from locations proposed in work plan to address anomalies identified during the geophysical survey.	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 AOC-56. 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 Tarrant Association, Rolling, soils is 7.94.	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 packages, and ranges from 8.0 to 19.1%.	Yes.	NA
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 1.2.1.	Yes	NA
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 subsurface anomalies at AOC-56, subsurface investigation is required to fully characterize the potential source area.	Excavate anomalies and conduct subsurface soils sampling. If shallow groundwater is encountered during excavation activities, groundwater should also be sampled.

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	Identify the location of the unit/disposal area (B.3.B.2(a)).	In 1999, points along the boundary of AOC-56 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.	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 site was used as a landfill in the past. The extent and type of waste disposal is not know.	No. The geophysical survey provided additional evidence of potential buried waste; however, this has not been confirmed.	Conduct excavation in area of identified anomaly to determine if there is buried waste at the site.
	Identify design features (B.3.A.2(c)).	No actions have been taken to identify design features.	No. It has not been confirmed that the site was used for waste disposal. If it was, the depth of the trench is not known, nor are any other design features.	Conduct excavation in area of identified anomalies to determine if there is buried waste at the site.
	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 records review, 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
	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 records review, and visual observations at the site is provided in Section 1.1.2.2.	No. It has not been confirmed that the site was used for waste disposal. If it was, the characteristics of the waste have not been identified.	Conduct excavation in area of identified anomaly to determine if there is buried waste at the site. If waste is encountered, conduct sampling of subsurface soils to identify if migration has occurred.

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Contamination Characterization – Soil (B.3.C.2)	Determine vertical and horizontal extent of contamination (B.3.C.2(a)).	Three surface soil samples were collected as a first phase of investigation at the site. None of the contaminant concentrations exceeded background.	No. The horizontal extent of potential subsurface contamination has not been determined.	Conduct excavation in area of identified anomalies to determine if there is buried waste at the site. If waste is encountered, conduct sampling of subsurface soils to identify extent of subsurface contamination, if any.
	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)).	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 (B.3.C.2(f)).	A phased approach is being taken for the investigation at AOC-56. The first phase included a geophysical survey to determine if a trench may be located at the site. Surface soil samples were collected to determine if there is surface contamination. Soil borings have not been drilled at AOC-56.	No.	Excavation of the anomalies is recommended to determine if waste is buried at the site. Subsurface soil samples can be collected at that time to determine the vertical extent of contamination, and/or to verify that all waste and contaminated material has been removed.
	Off-site soil contaminant plumes shall be defined using soil borings, soil gas monitoring, laboratory analyses, and closure of boreholes as described immediately above (B.3.C.2(g)).	Because AOC-56 is located well within the CSSA boundary, offsite migration of contamination from this site is unlikely.	NA	NA

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	A characterization of the physical and chemical nature of soils and contaminants in the following areas: 1) Ditches and run-off accumulation areas at or near the SWMUs, AOCs, and/or Facility property boundaries; 2) All contaminated soil storage areas and waste piles; 3) Railcar unloading areas; 4) Truck unloading areas; and 5) any other areas of concern (B.3.C.2(h)).	Three surface soil samples were collected at AOC-56 for the first phase of investigation of the site, and to determine if additional investigation is warranted.	No. Since evidence of buried waste was identified during the first phase of the investigation, additional characterization is warranted.	Same as previous recommendations: excavation and subsurface soils sampling.
	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. Metals background levels were approved by TNRCC on April 23, 2002.	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," 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

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		All "R" flagged data are considered unusable. However, only one SVOC analyte was flagged "R" for this site. Despite non-compliance of the percent difference for the continuing calibration, all of the initial calibration, second source verification and internal standard criteria were within quality control limits.	Yes.	As the analyte is not a constituent of concern, all of the data are usable for site 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.	AOC-56 is located on the southern edge of the Salado Creek floodplain. In the vicinity of CSSA, Salado Creek only contains water during and shortly after heavy precipitation. Therefore, surface water was not sampled as part of the AOC-56 investigation. Sampling of sediments in association with the AOC-56 investigation is not warranted due to the very limited amount of contamination detected at AOC-56.	NA	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