# APPENDIX C

## EVALUATION OF DATA QUALITY OBJECTIVES ATTAINMENT

| Activity | Objectives | Action | Objective Attained? | Recommendations |
|---|---|---|---|---|
| **Objective 1: Meet TCEQ 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 non-hazardous 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 non-hazardous 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.<br><br>The area was excavated, and confirmation samples indicated that any potential source of contamination was removed during excavation activities. | Yes. | NA |

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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 revised background levels (Parsons, Feb 2002) or reporting limits (RLs), which are equivalent to PQLs. | Yes. Confirmation samples taken came under the background metals levels or RLs. | NA |
| | 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 confirmation soil samples were collected at the site and analyzed for contaminants of potential concern, including metals, explosives and VOCs. | Yes. | NA |

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| **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 |
| **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.<br>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 package. | Yes. | NA |

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| 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. An intermittent creek borders the site to the east. 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. | Sampling at the site was biased toward areas most suspected of contamination. Following excavation activities, confirmation samples came in under the background levels for metals. | NA |
| | 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 known. | Yes. The geophysical survey provided additional evidence of potential buried waste. Excavation removed the potential source, and confirmation samples indicate that the metals are now below background. | NA |
| | Identify design features (B.3.A.2(c)). | A geophysical survey provided evidence of the boundaries of potential waste burial locations. The area was excavated and any remaining waste was removed and disposed of. | Yes. To the extent possible with data available. The extent of the likely burial area has been removed through excavation. | NA |

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| | 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 records review, interviews, aerial photo review, and visual observations. | Yes. 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 |
| Source Characterization (B.3.B) (continued) | 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 records review and visual observations at the site is provided in Section 1.1.2.2. | Yes. To the extent possible with data available, evidence supported by the geophysical survey. The potential burial site has been excavated and any traces of waste removed. | NA |
| Contamination Characterization – Groundwater (B.3.C.1) | Characterize the vertical and horizontal extent of groundwater contamination. | Not included in this phase of the RFI at the AOC 50 area.<br>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)). | Three surface soil samples were collected as a first phase of investigation. None of these contaminant concentrations exceeded background. Since the geophysical survey noted anomalies, an excavation was completed and confirmation samples verified that metals were below background levels. | Yes. It was removed. | NA |

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| | 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)). | Cadmium, chromium, copper, lead and zinc were the only analytes that exceeded closure criteria. Direction of contaminant movement was not determined as part of this investigation. | NA | NA |
| | Extrapolate future contaminant movement (B.3.C.2(e)). | Cadmium, chromium, copper, lead and zinc were the only analytes that exceeded closure criteria. Direction of contaminant movement was not determined as part of this investigation. | 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 was 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 were not drilled at AOC 56. Finally, excavation and disposal were performed to remove potential sources of contamination, and the site backfilled and graded. | Yes. | NA |

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| | Off-site soil contaminat 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 |
| | 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. A geophysical survey detected anomalies that were potential landfill areas, and were subsequently excavated and disposed of. Confirmation soil samples indicated that sources of contamination were removed. | 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 TCEQ on October 5, 1999. RLs are considered RRS1 standards for all analytes except metals. Metals background levels were approved by TCEQ 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 |

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| | | All data flagged with "U," "F," "M," and "J" are considered usable for site characterization purposes. | Yes.<br>"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. However, only one SVOC analyte was flagged "R" for this site. Despite non-compliance for the continuing calibration, all of the initial 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 |