

APPENDIX A

AOC-38 – 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				
	<p>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)).</p>	<p>No formal waste management activities were known to occur at AOC-38. Geophysical survey results revealed one anomaly possibly associated with waste management activities. Soil gas survey results indicated that chlorinated VOCs were present at AOC-38 related to well CS-16.</p>	<p>Yes, confirmation surface soil sampling was conducted at locations designed to investigate the chlorinated VOCs detected in the soil gas survey results. Soil samples did not detect any VOCs at concentrations greater than RLs. The area around a suspected geophysical anomaly was excavated, and no subsurface waste was present. No waste was removed and no waste residue was generated.</p>	<p>Site closure under RRS1.</p>

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	<p>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)).</p>	<p>Contaminant concentrations were compared to the RLs for the analytes, specifically: PCE and TCE.</p>	<p>None of the surface soil samples collected exceeded RLs; therefore, the site meets RRS1 closure criteria for VOCs.</p>	<p>Site closure under RRS1.</p>
	<p>Attainment of cleanup levels shall be demonstrated by collection and analysis of samples from the media of concern (30 TAC 335.554(e)).</p>	<p>The COCs detected during the 1995 soil gas surveys, i.e.; PCE and TCE indicated additional surface soil sampling should be performed. Therefore, in 2000, a total of 60 surface soil samples were collected at the site.</p>	<p>Yes.</p>	<p>NA</p>

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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.	Not included in this phase of the RFI at AOC-38. Subsurface sampling was not conducted at AOC-38. 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 1.3.1.	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 and Trinity and Frio soils are 7.87 and 7.90, respectively.	Yes.	NA
	Determine moisture content (B.3.A.2(g)).	The moisture content of each sample was analyzed. Moisture content values are provided in the laboratory data packages.	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.	The nearest surface water bodies are two intermittent streams that traverse AOC-38 across the northern portion. These tributaries merge and flow southward where they join Salado Creek on AOC-38's southern boundary.	Yes.	NA
Source Characterization (B.3.B)	Identify the source area (B.3.B.1).	A description of potential sources of contamination is provided in Section 1.2.2.2.	Sampling at the site was biased toward areas most suspected of contamination, including the sample locations for detected VOCs during the soil gas surveys in 1995. No contamination was found.	No contaminant sources are present at AOC-38. Site closure under RRS1.
	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 measurement points were identified by the CSSA Environmental Coordinator. 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)).	An EM geophysical survey and soil gas survey were conducted to investigate the source of COCs detected at Well 16. A portion of AOC-38 was determined to have been used for waste disposal. This area was designated SWMU B71 and separated from AOC-38.	Yes. Further investigation to remediate SWMU B-71 will be conducted for that site separately.	Site closure under RRS1.

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	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 prior use/design of the site is provided in Section 1.2.2.1.	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 1.2.2.1. 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 2.1 of the AOC-38 RFI Report.	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 1.2.2.1.	Yes.	NA

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Contamination Characterization – Groundwater (B.3.C.1)	Characterize the vertical and horizontal extent of groundwater contamination.	Shallow groundwater was not encountered since subsurface investigation was not part of the investigation at AOC-38. 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 were collected in areas where soil gas samples indicated possible contamination in the site soils .	Yes, all samples reported concentrations less than RLs.	NA
	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)).	NA	NA	NA
	Describe soil properties (B.3.C.2(c)).	See “Characterization of Environmental Setting – Soils” above and Section 1.3.1.	Yes.	NA
	Identify the direction of contaminant movement (B.3.C.2(d)).	No action taken since no contamination was detected above RLs.	NA	NA

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	Extrapolate future contaminant movement (B.3.C.2(e)).	No action taken since no contamination was detected above RLs.	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.	Not included in this phase of the RFI at AOC-38. Further subsurface investigation was not conducted at AOC-38 since all confirmation surface soil samples were reported with concentrations of COCs less than RLs.	NA	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.	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.	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.	AOC-38 is located in the central portion of CSSA. The only surface water bodies at AOC-38 are two ephemeral creeks traversing the northern portion of AOC-38. These creeks merge and flow south to join Salado Creek. No surface water sampling was conducted. Several surface soil samples, including SS19, SS20, SS27, SS28, and SS38 were collected within the unnamed creek bed.	Yes. Surface water was not present during the investigation. Water only flows across the site immediately after periods of heavy precipitation.	NA
Potential Receptors (B.3.D).	Collect the information necessary to describe the human populations and environmental systems that are susceptible to contamination 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 identified private groundwater users within 0.25 miles and public water suppliers within 0.5 miles of CSSA.	Yes.	NA