

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				
	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, surface, and subsurface sampling were conducted to determine if there is evidence of buried waste at the site. The geophysical survey indicated no waste-related anomalies. Field observation of material removed from the pipe bedding confirmed the presence of shot material.	No. Waste material has been removed from the pipeline trench (approximately 36 yards total). Although samples taken from RW-B32-SB01 (8.5-9.0 ft bgs), RW-B32-SB02 (11.5-12.0 feet bgs) and RW-B32-SB03 (12.0-12.5 feet bgs) slightly exceed Glen Rose limestone background values, none of the concentrations exceed background metals levels for CSSA surface soil.	RRS1 Closure.

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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 PQLs.	No. Although three subsurface Glen Rose samples exceeded Glen Rose background, none of the concentrations exceed CSSA soils background. These samples were collected from areas with interbedded clay and limestone, or fill material. Background values of the clay and fill material are more comparable to CSSA background soil values.	RRS1 Closure.
	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 the site. Contaminants of potential concern include explosives and metals.	No explosives were detected and all metals concentrations detected were below RRS1 criteria for CSSA soils.	RRS1 Closure.
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

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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 SWMU B-32. 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
	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.	No marshes, creeks or wetland areas are present at the site. There is a ditch to the east along Tompkins Road. 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 source area is provided in Section 1.1.1.2.	Yes. The source of contamination at SWMU B-32 was the sand fill used around the sanitary pipeline. Sample collection was biased toward areas suspected of contamination.	NA

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	Identify the location of the unit/disposal area (B.3.B.2(a)).	In 1999, points along the site boundary 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.	NA
	Identify the type of unit/disposal area (B.3.B.2(b)).	Information regarding the type of site was obtained from the Environmental Assessment (ES, 1992) and from field activities.	Yes.	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 pipeline area 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
	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

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	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 1.1.2.2.	Yes.	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 SWMU B-32. 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.	Yes.	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)).	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)).	No action taken.	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.	A soil boring investigation was conducted and samples were analyzed for explosives and metals.	Yes.	NA
	Prepare a map of all areas included in the investigation (B.3.C.2(i)).	Figures B32 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. Metals background levels for CSSA 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," and "J" are considered usable for site characterization purposes.	Yes. "J" flagged data are also considered usable. The quantitation estimation does not significantly affect the sample results.	NA

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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.	SWMU B-32 is located in the southwestern portion of CSSA, and there are no creeks or ponds in the immediate vicinity. Therefore, surface water and sediments were not sampled as part of the SWMU B-32 investigation.	Yes.	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 identifies private groundwater users within 0.25 miles and public water suppliers within 0.5 miles of CSSA.	Yes.	NA