

**APPENDIX C—EVALUATION OF DATA
QUALITY OBJECTIVES ATTAINMENT**

Activity	Objectives	Action	Objective Attained?	Recommendations
Objective 1: Determine the COCs at SWMU B-3				
Determine the COCs for the site.	Review results of previous investigations to identify potential COCs for SWMU B-3.	Analytical program specified in the project-specific SAP is based on the identified COCs. Potential COCs for SWMU B-3 are VOCs and selected metals, specifically, arsenic, barium, cadmium, chromium, copper, lead, nickel, and zinc. Composite samples were analyzed for semivolatile organic compounds (SVOCs) and mercury.	Yes.	No further field investigation activities are required to identify COCs at SWMU B-3.
Objective 2: Establish TCEQ Requirements for Site Closure				
Establish TCEQ site closure requirements	Soil unit of the site will be closed under TCEQ RRS1, i.e., closure to background concentrations of COCs.	Previous studies established CSSA-specific background concentrations for metals in soil. These concentrations are presented in the SAP.	Yes.	NA
Objective 3: Cover Soils				
Characterize surface soils in stockpiles.	If waste materials or debris are visible, the material will not be used as fill, and the material will be characterized for waste disposal.	Cover soils were segregated into separate stockpiles based on field screening assessments and analytical results. Cover soils free from contamination were placed in the clean fill stockpile and metal debris deemed recyclable was placed in the scrap stockpile. Waste materials identified visually, such as ash or burned materials, and soil with excessive PID/FID readings were segregated as Class 1 nonhazardous waste.	Yes.	NA
	If no waste material is observed, one sample per 250 cubic yards will be collected. Seven samples are estimated.	The clean fill stockpile was sampled a minimum of once every 1,000 loose cubic yards.	Yes. The requirement was amended based on initial field sampling results.	NA
	Samples will be tested for COCs including VOCs and metals. In addition, selected samples will be tested for mercury and SVOCs to confirm they are not present.	In accordance with the SAP Addendum, samples were analyzed for VOCs and COC metals. A single composite sample was collected for analysis of SVOCs and mercury.	Yes.	NA

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	<p>Seven discrete VOC and metals samples will be collected. One composite for SVOC and mercury will be collected. Samples will be collected and testing using the method and analyte lists in the SAP.</p>	<p>Four samples and one duplicate were collected from the clean fill stockpile on September 9, 2002, and analyzed for VOCs and COC metals. One composite sample was analyzed for SVOCs and mercury. Three cover soil samples were also collected from exploratory trenches excavated across the main disposal trench and analyzed for VOCs and COC metals. All analytical methods were in accordance with the SAP Addendum.</p>	<p>Yes.</p>	<p>NA</p>
	<p>Field duplicate and matrix spike duplicate samples should be collected and analyzed per the project-specific SAP.</p>	<p>In accordance with the project-specific SAP, one field duplicate and matrix spike samples were collected and analyzed for VOCs and COC metals.</p>	<p>Yes.</p>	<p>NA</p>
	<p>Samples will be analyzed using normal (21-day) turnaround times.</p>	<p>Samples were analyzed within the 21-day turnaround time or less.</p>	<p>Yes.</p>	<p>NA</p>
	<p>Validation of the cover soil analytical data will consist of a review of the data package case narrative.</p>	<p>The data package case narrative for cover soil analytical data was reviewed to ensure data usability.</p>	<p>Yes.</p>	<p>NA</p>
	<p>If soil exceeds CSSA background level for metals or TCEQ's RRS1 criteria, the designated landfill will be contacted to determine what, if any, further characterization would be required. TCLP samples may be required.</p>	<p>The analytical results were compared to background criteria to determine the suitability of the material as backfill. Five additional samples were collected on October 11, 2002, and analyzed for zinc and mercury after initial results showed some sampled exceeded the background criteria. Material exceeding background criteria was segregated for offsite disposal.</p>	<p>Yes.</p>	<p>NA</p>

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Objective 4: Trench Materials	<p>Characterize the soil after it is excavated and stockpiled. Field screen with a PID/FID, visual observation and olfactory evidence will be used to segregate stockpile soils.</p>	<p>Two separate actions were conducted based on discovery of hidden field conditions. Materials excavated from the disposal trenches were segregated into separate stockpiles based on analytical data and field screening assessments. Waste materials identified visually and soil with elevated PID/FID readings (>5 ppm) were segregated as Class 1 waste in the north PIMS containment cell. Soil within this cell was also segregated. Soil removed from the disposal trench that was relatively free of waste debris was segregated into the Class 2 waste cells. Drums were overpacked and segregated in a bermed, lined area designated for hazardous waste.</p> <p>Contaminated materials from the west disposal trenches were not excavated in this phase of the field action. Exploratory trenches were excavated and waste characterization samples were collected to delineate the nature and extent of waste.</p>	<p>Yes, for east trench. Waste from west trench was not excavated during this phase of the IRA.</p>	<p>A second phase of IRA activities is recommended for the west disposal trenches to attain clean closure criteria.</p>
Characterize the material for off-post disposal	<p>Characterize the material for off-post disposal</p>	<p>Excavated materials from the east disposal trench were segregated into separate stockpiles. Soil samples were collected from the east trench Class 1 impacted soil stockpile, east trench Class 1 unimpacted soil stockpile, and east trench Class 2 stockpile. A liquid sample was collected from the overpacked drum.</p>	<p>Yes, for east trench. Waste characterization samples were collected from the western disposal trenches, but no waste was excavated during this phase of the IRA.</p>	<p>A second phase of IRA activities is recommended for the west disposal trenches to attain clean closure criteria.</p>
Discrete samples will be collected on a frequency of one sample per 500 cubic yards. Twenty samples are estimated.	<p>Discrete samples will be collected on a frequency of one sample per 500 cubic yards. Twenty samples are estimated.</p>	<p>The soil stockpiles from the east trench were sampled a minimum of once every 1,000 loose cubic yards. Four soil samples and one drum contents sample were collected for waste characterization.</p>	<p>Yes. The requirement was amended based on initial sample results.</p>	<p>NA</p>

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	<p>Characterization of materials for disposal will require analyses for TCLP VOCs, TCLP Texas List metals (11 metals), and TPH.</p>	<p>Soil samples collected from the waste stockpiles were analyzed for TCLP VOCs, TCLP metals, and TPH to characterize the waste for off-post disposal. The liquid contents of the overpacked drum were analyzed for VOCs, SVOCs, COC metals, and TPH.</p>	Yes.	NA
	<p>Samples will be analyzed using a 7-day turnaround time.</p>	<p>All waste characterization samples were analyzed within the 7-day turnaround time.</p>	Yes.	NA
	<p>No field duplicate, matrix spike, MSD, or trip blank samples will be required for waste characterization.</p>	<p>In accordance with the site-specific SAP, no field duplicates, MS, MSD, or trip blanks were collected.</p>	Yes.	NA
	<p>Analytical case narratives will be reviewed for completeness, but formal verification/validation will not be required for waste characterization.</p>	<p>Analytical case narratives for the waste characterization data were reviewed to ensure data usability.</p>	Yes.	NA
	<p>If the material meets nonhazardous waste requirements, the soil will be taken off post to a local landfill for disposal. If testing indicates the waste materials are hazardous, the portions of the stockpiles that exceeds nonhazardous requirements will be segregated and confirmation samples will be collected.</p>	<p>A sample was collected from the impacted soil in the north (Class 1) containment cell for Onyx waste profile.</p>	Yes.	NA
	<p>Metal debris will be segregated for potential recycling.</p>	<p>Metal debris was segregated during field activities and recycled.</p>	Yes.	NA
	<p>PVC from vapor monitoring/extraction wells will be disposed of with the Class 2 nonhazardous waste. Well abandonment report was completed by a third-party subcontractor.</p>	<p>Waste material generated from removal of the SVE system was disposed offsite as Class 2 nonhazardous waste.</p>	Yes.	NA

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	<p>Closure confirmation samples will be collected from the soil portion of the excavation sidewalls.</p>	<p>Closure confirmation samples were collected from the soil portion of the excavation sidewalls of the east trench as described in the project-specific SAP and WP.</p>	<p>Yes. However, excavation of waste material was only conducted at the east trench.</p>	<p>A second phase of IRA activities is recommended for the west disposal trenches to attain clean closure criteria.</p>
	<p>Approximately eight discrete samples will be collected from the excavation sidewalls (based on 100-foot intervals delineated along the limits of excavation). Approximately eight composite samples will be collected, one sample for each sidewall, unless rock is encountered in the trenches. Rock samples will not be collected for closures of the land-based portion of the site.</p>	<p>The closure confirmation samples specified in the project-specific SAP were based on excavation of two trenches. The west trench was not excavated during the IRA. The east trench was determined to have a "y"-shape, requiring additional sidewall samples to be collected and analyzed. On September 17, 12 discrete samples were collected and analyzed to demonstrate clean closure. Five composite closure confirmation samples were also collected from the northern, western, southern, and eastern extents of the original excavation.</p>	<p>Closure confirmation samples were collected after all waste had been removed from the east trench. All confirmation samples analyzed after excavation achieved clean closure criteria. The waste in the west trench was not excavated.</p>	<p>A second phase of IRA activities is recommended for the west disposal trenches to attain clean closure criteria.</p>
	<p>Discrete samples will be analyzed for VOCs (full list) and COC metals. Composite samples will be tested for SVOCs. No samples will be submitted for mercury analyses.</p>	<p>Analysis of all closure confirmation samples was conducted in accordance with the project-specific SAP.</p>	<p>Yes, removed.</p>	<p>NA</p>
	<p>Samples will be collected and analyzed as excavation pit is estimated that half of the samples will be analyzed with a 3-day turnaround time.</p>	<p>Closure confirmation samples were collected on September 25, October 2, October 8, and October 17, 2002, to determine compliance with closure criteria. Over-excavation was conducted on the northern end of the excavation, and at the east (two events), southeast, northeast, and northwest sidewalls. All samples were analyzed within the required turnaround time.</p>	<p>Yes.</p>	<p>NA</p>
	<p>QA/QC samples will include field duplicate, matrix spike/matrix spike duplicate, trip blank, and equipment rinse blanks per the SAP.</p>	<p>Laboratory QC sample analysis included method blanks, laboratory control samples, and matrix spike samples. Field QC samples associated with closure confirmation sampling included a field duplicate, equipment rinse blank, and trip blank.</p>	<p>Yes.</p>	<p>NA</p>

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	100% verification/validation will be required.	One hundred percent of the closure confirmation sample data for the SWMU B-3 IRA were validated in accordance with the AFCEE Quality Assurance Project Plan Version 3.1 and project-specific SAP.	Yes.	NA
	If confirmation samples exceed CSSA established background for metals or TCEQ RRS1 levels, further excavation may be conducted. Should samples be necessary, a minimum of two additional confirmation samples will be collected after further excavation is completed.	Analytical results reported for 16 closure confirmation samples collected after initial excavation activities were completed indicated exceedances of background criteria for PCE, TCE, and two metals. Over-excavation was initiated and one composite and eight discrete closure confirmation samples were collected and analyzed. Sampling was conducted on September 25, October 2, October 8, and October 17.	Yes.	NA
	Once the site meets RRS1 closure requirements, a closure report will be provided to the TCEQ and EPA.	An IRA Construction Completion Report documenting the field activities will be provided to the TCEQ and EPA as required.	Yes. However, the report will be only for partial closure of SWMU B-3, since it covers only the east trench.	NA
Objective 6: Borrow Soil				
	Laboratory analyses of borrow soil will be required to confirm it is free of contaminants. One discrete sample will be collected from the borrow soil material to confirm COC, SVOC, and mercury concentrations are at or below background criteria. The sample will be analyzed for VOCs, SVOCs, COC metals, and mercury using the methods specified in the SAP.	In accordance with the SAP, one grab soil sample was collected on August 28, 2002, and analyzed for VOCs, SVOCs, and COC metals, including mercury, to confirm that the borrow source was free from contaminants. The analytical results were compared to background criteria to determine the suitability of the material as backfill.	Yes.	NA
	No data validation is required for borrow source analytical data. Normal (21-day) turnaround time is acceptable for this analysis.	The data package case narrative associated with the borrow source analytical data was reviewed. Samples were analyzed with the 21-day turnaround time.	Yes.	NA

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	No compaction or other geophysical testing is required as borrow material is placed in the excavation.	No action required.	Yes.	NA